Northern Rhodesia

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Rhodesia Northern. Development authority

Ten-Year Development Plan for Northern Rhodesia

as approved by Legislative Council on 11th February, 1947

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SECTION I

DEVELOPMENT PLANNING—THE BACKGROUND

1. In February, 1943, the Colonial Office " Statement of Policy on Colonial Development and Welfare " (Cmd. 6175), together with a memorandum " On Native Development in Northern Rhodesia " by the Chief Secretary to the Government, were sent to Provincial Commissioners. They were required to arrange with their District Commissioners for the preparation of district and provincial plans of development. These plans were to be drafted in consultation with Africans, missionaries and other unofficials and in co-operation with Government technical officers in each province. Social and economic services had been expanding annually, but this represented the first major effort at long-term planning.

2. Meetings and discussions took place throughout the Territory and a vast amount of information was collected. Towards the end of the year co-ordinated plans on a provincial basis were submitted to Government. When the plans were considered at headquarters it became clear that collectively they represented an ideal at which to aim but that their cost was far beyond the capacity of the Territory to meet.

3. For some years past the Native Development Board had considered minor schemes of development, allocated funds for approved schemes, received reports on them and continued to finance them until they had served their purposes or become firmly established. A technical sub-committee of this Board was appointed, consisting of the Director of Medical Services as chairman and the heads of the African Education, Agriculture and Forestry, Veterinary Departments as members. In 1945 the Acting Director of Game and Tsetse was added to this sub-committee. The Commissioner for Native Development was secretary. This sub-committee was required to examine development plans.

4. In November, 1944, a Joint Development Adviser to Northern Rhodesia and Nyasaland arrived in this Territory and at once undertook an extensive programme of travelling and investigation. He attended the meetings of the sub-committee and gave it his advice and assistance. In February, 1945, he presented his first report but at the same time emphasised the preliminary nature of his recommendations. The report was printed in April, 1945, under the title, " Memorandum on Post-War Planning in Northern Rhodesia." Government accepted the memorandum as giving the general principles on which planning should be based but indicated that further examination of some of the recommendations was necessary. The report is printed as Appendix A.

5. The sub-committee of the Native Development Board asked the heads of the social and economic services departments to draw up detailed plans and estimates for their own departments over a ten-year period. These were completed in April, 1945. Each plan gave the minimum expansion necessary for each department in 10 years and gave no " luxury " services of any kind. They are :*

Health Services Development Plans, 1945–55	Appendix B
African Education Development Plans, 1945–55	Appendix C
Agriculture and Forestry Development Plan for 10 years	Appendix D
Livestock Industry Development Plans, 1945–55	Appendix E
Game and Tsetse Control Development Plans, 1945–55	Appendix F

Together they required additional expenditure of £6,512,630 for the ten-year period if normal departmental expenditure appearing in the annual estimates was kept at the 1945 level.

6. The sub-committee of the Native Development Board also recommended that five development centres should be established to give practical training to the large number of Africans these departments would require to carry out their plans. The centres were to conduct experiments and investigations and would illustrate what could be achieved

* Because these departmental plans have since been modified and do not represent the Territorial Development Plan as finally approved in Legislative Council, the appendices have not been printed as part of the Plan and are not available for general circulation.

within a limited extension area when social services are provided on a full scale. Th memorandum, "Development of Social Services for Africans—Development Centres (Appendix G), published in June, 1945, gives full particulars of the scheme, which wa calculated to cost £2,155,000 in the ten-year period in addition to the figures given i paragraph 5. The total expenditure on social and economic departments was thu £8,667,630.

7. In addition, an extensive programme of capital works would be required. Pro vision would be necessary for economic development, both European and African. Fund were needed to improve communications, water supplies, urban housing for Africans an general departmental expansion if the territorial plan of development was to be a balance whole. All this planning was done before accurate information could be supplied regardin the funds available to carry it out.

8. The Secretary of State's despatch dated 12th November, 1945, indicated that provided individual schemes are in themselves suitable for assistance and fall within th approved general plan, Northern Rhodesia can expect grants totalling £2½ million under th Colonial Development and Welfare Act during the ten-year period. In addition, there is regional allocation of £1 million to Central Africa for joint Northern Rhodesia–Nyasalan services. Also, this Territory should benefit from the central schemes given in paragraph of enclosure 2 of the circular despatch.

9. On 2nd April, 1946, the Acting Chief Secretary in Legislative Council moved "That the Council take note that revised development schemes are being prepared whic will in due course be submitted to this Council for approval and do approve for the carrying out of these schemes the allocation of £3,000,000 from Reserve Funds to supplement th grant which has been made under the Colonial Development and Welfare Act." The debat which followed is recorded in *Hansard*, No. 53 (cols. 149–178 and 185–223). The motio was agreed to, but Unofficial Members made it clear that they are unlikely to agree to an expenditure required for more than one development centre unless it proves its value.

10. On 3rd April, 1946, the Financial Secretary in Legislative Council moved, "That this Council take note that proposals involving the expenditure of £4,000,000 over th next five years on Capital Works as set out in the memorandum circulated to hon. Member are receiving the attention of Government." This motion also was accepted (*Hansard* No. 53, cols. 223–259). The schedule of works was purely provisional. It was agreed tha the loan could be increased to £5 million if necessary, to provide for other essential majo works such as urban and rural water supplies, soil conservation and the like.

11. The technical sub-committee of the Native Development Board then had, fo the first time, definite figures within which development plans should be prepared. Th Acting Chief Secretary in his minute SOEC/16 of 23rd April, 1946, instructed the sub committee to revise the plans for the expansion of Health, African Education, Agricultur and Forestry, Veterinary, Game and Tsetse, and general rural development to come withi the limit of £5½ million available from the Colonial Development and Welfare Fund (£2 million) and Northern Rhodesia surplus funds (£3 million). He also required the sub committee to make provision out of this sum for one and, if possible, two developmen centres of the five originally proposed. The sub-committee met on 25th April and 30t May, 1946. The original 1945 plans (Appendices B to F) were modified by each head o department.

12. In addition, the sub-committee recommended the establishment of a Publication Bureau and a scheme of rural development based on development districts inside develop ment areas. This scheme aims at the co-ordination of all departmental activities withi each province and will attend to development work which lies outside the scope of existing departments. The scheme of rural development was considered by the sub-committee t be of paramount importance; so much so that heads of departments were prepared t reduce their own plans still further if funds to make it effective were lacking.

13. The 1945 plans prepared by the social and economic departments with th modifications necessary to fit them into the financial limit then set, together with the plan for rural development and the recommendations of the technical sub-committee regarding

10DP

communications, water supplies, welfare and other departmental expenditure, were sent to London towards the end of May, 1946.

14. His Excellency the Governor, with his Joint Development Adviser, Financial Secretary and Secretary for Native Affairs, considered these draft plans with the Colonial Office. After full discussion with the Hon. Sir Stewart Gore-Browne and the Hon. R. Welensky, who are members of the Executive and Legislative Councils, a memorandum was prepared and forwarded to Northern Rhodesia, giving the outline within which the Northern Rhodesia Ten-Year Plan should be drafted.

SECTION II

THE FUNDS AVAILABLE

15. In planning development the two limiting financial factors are the funds available during the period covered by the plan and the capacity of the Territory to meet subsequent recurrent expenditure which expanded departments will inevitably require.

16. The financial provision in April, 1946, was :

(i) from Northern Rhodesia Reserve Funds ... £3,000,000
(ii) from Colonial Development and Welfare Fund £2,500,000
(iii) from Loan £4,000,000
with a possibility of increasing it to £5,000,000 if necessary ;
(iv) Northern Rhodesia–Nyasaland regional allocation £1,000,000

The maximum sum was thus £10½ million plus Northern Rhodesia's share in (iv).

17. The revised programme which is the outcome of the discussions in London requires a total expenditure of £13 million, allocated as follows :

I. *Social Services* :		
A. Health	£1,598,000	
B. African Education (including Publications Bureau)	£1,536,000	
C. European Education	250,000	
		£3,384,000
II. *Economic Services* :		
A. Agriculture	776,000	
B. Forestry	314,000	
C. Veterinary	518,000	
D. Game and Tsetse, Fish	500,000	
		£2,108,000
III. *Rural Development*		£1,500,000
IV. *Communications* :		
A. Road, air and water transport	£1,150,000	
B. Aerodromes	350,000	
C. Posts, Telegraphs and Telephones	320,000	
		£1,820,000
V. *Water Development* :		
A. Supplies for human and livestock consumption	670,000	
B. Irrigation	300,000	
		£970,000
VI. *Economic Development* : Agricultural development, marketing secondary industries		£500,000
VII. *African Housing*		£1,000,000
VIII. *General building programme and P.W.D. (including Lusaka light and water)*		£1,300,000
IX. *Loans to Local Authorities*		£250,000
X. *Unallocated Balance*		£168,000

18. It is intended that the £13 million ten-year development programme should be financed as follows:

Colonial Development and Welfare Fund	£2½ million
Existing and future Northern Rhodesia surpluses ...	£5½ million
Loan	£5 million.

These figures are examined in greater detail below, but it is first necessary to relate the recurrent commitments involved in the programme to Northern Rhodesia's revenue and expenditure position. The estimates for 1946 show an expenditure of approximately £3 million, but they include approximately £240,000 of war-time and special expenditure which will not continue, and approximately £260,000 for public works, etc., which would be financed from loan if loan funds were available. On the other hand, provision must be made for inevitable increases in expenditure on pensions, etc., and when approved establishments are fully filled and overseas leave returns to normal. Allowing for this, £2,700,000 may be taken as the starting point from which increased commitments on development should be calculated. The expanded services under Heads I, II and III of the ten-year development programme involve an increased commitment of £650,000 at the end of the tenth year. But this figure can be tapered off to about half this sum if the financial position requires it. In addition, allowance must be made for the increased commitments involved by the capital programme under Heads IV to IX and for the interest on the loan. Admittedly these increased commitments will to a considerable extent be covered by increased revenue resulting from the loan programme, but taking the expenditure side only for the present and allowing also for increases in recurrent charges on other departments, it is thought that a further recurrent commitment of £380,000 should be allowed for. The total expenditure at the end of the ten-year period may be taken, on the basis of the £13 million programme, as nearly £4,000,000.

19. As against this it was estimated by the Taxation Review Committee that a revenue of approximately £3½ million per annum may be expected in the years 1947 to 1949 on the basis of increasing the income tax on companies from 6*s.* to 7*s.* 6*d.* as is proposed, and of the new double income tax relief arrangement. The Committee felt that it is not possible at present to foresee the course of revenue after 1949. Admittedly the large expenditure involved in the development programme should produce considerably increased revenue indirectly, but on the other hand the Territory is basically dependent on copper for its prosperity, and the Committee estimated that a fall in the output of copper of 10 per cent. below the present level of 200,000 tons per annum and in the profit of the companies of £10 per ton below the level of approximately £20 would reduce annual revenue by as much as £800,000. At present both the short-term and the long-term prospects for copper are good, but the situation might change and it is felt therefore that Northern Rhodesia's development programme must be kept highly flexible, so as to allow either for expansion or for slowing down in accordance with the financial and economic prospects of the Territory.

20. It is proposed therefore that the £13 million programme should be reviewed every three years, and, while the Legislative Council will have the whole programme laid before them for their information and comments, it is proposed only to ask them at present to approve the first three years of the programme. It is anticipated that the expenditure during this period will be approximately £4½ million, £1½ million of which is for expanded services under Heads I, II and III of the programme and the remaining £3 million for expenditure under Heads IV to IX of the programme. The additional recurrent commitment involved during this period will be well within the revenue which may be anticipated for these years with reasonable confidence. This procedure will have three practical advantages. In the first place it will provide an immediate target for the next three years and should stimulate a quick start with the development programme. In the second place it will guard against the possibility of a fall in revenue if the copper situation develops unfavourably. In the third place it will leave the way open to expand the programme at the end of the three-year period, if, as is hoped, revenue develops satisfactorily. In this connection it should be noted that the original development programme drawn up in 1945 has now been considerably contracted so as to keep the programme within the immediately foreseeable limits of revenue. The education programme has been cut by over £900,000, the health programme by £400,000, and the rural development programme by

£650,000, making a total of approximately £2 million in all. It would be very desirable, if the financial prospects in three years' time permit, to expand the programme up to the higher level previously contemplated. Moreover, the capital development programme was for the most part intended as a five-year programme, and, although it is unlikely that the supply of staff and materials will enable this part of the programme to be completed in five years, yet it is probable that further expenditure will need to be provided for in the latter part of the ten-year period, particularly under the head of African Housing. There is thus ample room for expansion of the £13 million programme if circumstances permit.

21. It is in the light of this background that the arrangements for financing the £13 million programme should be considered. Of the £7 million required for social, economic and rural development services under Heads I, II and III of the programme it is proposed that £900,000 of the capital expenditure should be financed from loan, and the balance from Colonial Development and Welfare (£2½ million) grants and Northern Rhodesia surplus funds (£3,600,000). It is proposed that the remainder of the programme under Heads IV to IX, estimated to cost approximately £6 million, should be financed as to £4,100,000 from loan and as to the remaining £1,900,000 from Northern Rhodesia surplus funds. The £5½ million to be provided from existing and future Northern Rhodesia surpluses is calculated in the following way. According to the Revised Estimates for 1946, which were used for the calculations under discussion, the total surplus balance of the Northern Rhodesia Government at the end of 1945 was £6 million. It is considered that, in view of the Territory's total dependence on a single industry, some reserve must be retained to guard against a sudden fall in revenue. Accordingly £3 million out of the total surplus of £6 million has been voted by the Legislative Council towards the financing of the development programme. It was hoped that the remaining £2½ million would be found from the more favourable out-turn of the year 1945 and the surplus expected during the current year and the three years 1947 to 1949. But the necessity to provide for unusually high Public Works Extraordinary expenditure and other exceptional items in 1947, indicate that it will not be possible to find the whole £2½ million from surplus balances by the end of 1949. If, as is hoped, revenue continues at a high level after 1949 it will be possible to undertake further expansions of services under Heads I, II and III of the programme in accordance with paragraph 20 above, and also to use surplus funds to finance further capital expenditure projects under Heads IV to IX of the programme. In either event the £5 million loan will be required to finance the projects allocated to loan expenditure under the £13 million programme, unless of course revenue expands to an unexpected degree so as to make the raising of the whole of the £5 million loan unnecessary.

22. It is not proposed to ask for the raising of the first part of the £5 million loan until 1949. It is not in the interests of the Northern Rhodesia Government itself to be committed at this stage to the raising of loans of £5 million, since it will no doubt wish to review the loan requirements in 1949 in the light of progress of revenue meanwhile, the rate at which the programme is being carried into effect, and future revenue and expenditure prospects at that time. Assuming the need for it is demonstrated, it is not anticipated that any difficulty will arise in regard to the raising of a loan of £2,000,000 on the London Market in 1949. The Northern Rhodesia Government has planned on the basis of a loan of £5 million during the ten-year period and as far as can be foreseen at present, no difficulty will arise over raising loans up to this amount. It should be understood, however, that the Northern Rhodesia Government will not, when the time comes, ask to raise loans of an amount greater than is actually required. It should further be understood that meanwhile expenditure on loan projects should be met from cash balances as an advance against the loan which it is proposed to raise in 1949.

23. From the foregoing paragraphs it will be apparent that :

(i) The Northern Rhodesia development plan for a ten-year period is calculated to cost an additional £13 million.

(ii) The programme should be financed as follows :

Colonial Development and Welfare Fund ...	£2½ million
Reserve funds approved in Legislative Council ...	£3 million
Reserve funds, 1945 to 1949 surpluses	£2½ million
Loan funds	£5 million.

(iii) The full programme will be laid before Legislative Council but it will be asked to approve expenditure for the first three years only.

(iv) The whole plan will be revised towards the end of the three-year period in the light of financial circumstances at that time, and the Legislature will be asked to approve expenditure for a further period of three years, when the process will be repeated.

(v) That the floating of a loan will not take place until 1949 and the amount will not exceed £2,000,000 in that year.

SECTION III

PRINCIPLES OF DEVELOPMENT AND AFRICAN DEVELOPMENT ORGANISATION

24. Northern Rhodesia has a small immigrant population with a high standard of living confined to the railway belt (with the exception of a few settlements such as Fort Jameson). This section is vigorous, knows what it wants and will make every effort to develop. There is also the comparatively much larger indigenous population scattered throughout the Territory with a considerably lower standard of living and less opportunity of improving it. While the aim of the territorial plan is the same for both sections—maximum development possible within a given period—the methods adopted must differ as between the two sections. General development is complicated by the vastness of the Territory and its small population, the poor average quality of its soils, and the distance from world markets.

25. The development plan has three major objectives: the first two apply to the whole population and the third to Africans only:

(i) To give, on a modest scale, the bare essentials of social and economic services which all sections of the community require.

(ii) To encourage development of the natural and potential assets of the Territory but at the same time to prevent "exploitation" (used in its worst sense) of these assets.

(iii) To assist the African population to develop itself under its Native Authorities with all possible speed. This is urgent because a higher standard of living must be earned and cannot be awarded. To achieve it the Africans require better health and increased knowledge, energy, industrial or agricultural skill. Also, a more efficient and less wasteful use of natural assets can only follow a better understanding of the principles involved if it is to be willingly adopted.

26. Each province will have a provincial team consisting of the senior member of each department in the province under the chairmanship of the Provincial Commissioner. This team will deal with African development on a provincial basis. Within each province there will be one, two or three development areas controlled by the provincial team. These development areas will contain field staff concerned with the practical application of development schemes. The plan is given in detail in Section X.

27. The organisation mentioned in paragraph 26 is concerned with the problems peculiar to African development only. Authority is being asked from Legislative Council to spend money required for the first three years of the development programme; an organisation is necessary which will be responsible to Government and the Legislature to ensure that the plan as approved is being worked and that all funds allocated are being spent on approved projects. The powers and duties suggested are:

(i) The Development Authority will be responsible to Government for the carrying out of development plans as approved in Legislative Council insofar as staff, materials and other considerations permit. The membership will be two Officials and two Unofficials.

(ii) The Development Authority will control all development (including loan) funds authorised by Legislative Council for expenditure in the course of each three-year period which will be placed under requisition. Requisitions will be submitted to the Authority, which will in its discretion authorise the Accountant-General to issue the necessary warrants.

(iii) The Development Authority will have powers to call for reports on development projects at quarterly, half-yearly or annual intervals, or, if it considers it desirable, on the progress of any project or scheme at any time.

(iv) The Development Authority may after consultation with and agreement by the Standing Finance Committee transfer projects approved for any one of the three years for which funds are allocated into a different year if such action is necessary to preserve the balance of the plan or if difficulties in staff or materials require it, provided the total annual allocation is not exceeded.

(v) The Development Authority may issue instructions to any department or group of departments as to priority of execution between different works or projects provided that such instructions must not conflict with projects approved in the normal estimates as passed by the Legislature.

(vi) The Authority may authorise departments to enter into contracts for specific works or undertakings and to supervise their execution.

(vii) The Development Authority will make an annual report to the Legislative Council upon the progress of all works and projects for which it is responsible, and give an outline of the ensuing year's work. This report will contain full details of action taken under (iv) above.

NORTHERN RHODESIA TEN-YEAR PLAN OF DEVELOPMENT.

28. The 1945 development plans prepared by departmental heads are shown in the appendix. These plans with amendments, which are in some cases very extensive, make difficult reading. For this reason the development plan is given in some detail in the paragraphs following. For ease in reference the plan is divided into the Heads and Sub-Heads shown in paragraph 17.

SECTION IV

DEVELOPMENT PLAN HEAD I.A

HEALTH—(ALLOCATION £1,598,000)

29. The 1945 plan prepared by the Director of Medical Services is at Appendix B. From the table given on page 16 of the original plan the total cost of Health Services during the ten-year period was calculated to be £1,048,000 capital and £3,769,000 recurrent, or £4,817,000 in all. Taking current expenditure as being £200,000 per year, or £2,000,000 in ten years, the plan required additional funds amounting to £2,817,000. The actual amount allocated to the Health Department plans is £1,598,000, which falls far short of the original estimate. Government accepted the full plan prepared by Dr. Haslam as being in no way extravagant and as representing the minimum at which to aim if the health services of the Territory are to be considered satisfactory. The reductions in the plan have been made with regret, and solely because funds are lacking to pay for it. When the territorial plan is being revised towards the end of the first three-year period financial prospects may be such as to warrant considerable expansion of the present modified plan. £398,000 of the allocation is to be charged to loan funds and the balance of £1,200,000 will be charged in the proportion of five-twelfths to Colonial Development and Welfare Fund and seven-twelfths to Northern Rhodesia surplus funds. The Director of Medical Services is satisfied that even with this reduced allocation a very real advance can be made towards giving both the immigrant and indigenous population of Northern Rhodesia a large

part of the health services needed. The funds now available will bring these services to a point when they will be in extent and effectiveness nearly double what they are in 1946 and five times what they were in 1935.

30. The plan assumes :

(i) That ordinary annual revenue will continue to bear the cost of (*a*) personal emoluments of the staff establishment approved in the 1946 estimates; (*b*) the normal increments of that approved staff, and (*c*) the necessary or inevitable increases of sub-heads under " other charges " approved for 1946 which may be required by the continuation of, or desirability of expanding, projects approved in the 1946 estimates, subject of course to the consent of the Legislature.

(ii) That ordinary revenue will, after 1946, again bear the full cost of enterprises which appear in the annual estimates under the headings " Medical Training School," " African Urban Clinics," " Leprosy Centres " and " Equipment of Hospitals and Dispensaries " and which are now paid for in whole or part from Colonial Development and Welfare Funds.

(iii) That the works listed below will be carried out at the earliest possible time and will be paid from " Public Works Extraordinary ". All are for accommodation required for staff already appearing in the annual estimates and none are concerned with development plans or staff :

	£
Quarters for two Clinic Sisters, Lusaka	2,000
House for Radiographer, Lusaka	2,000
Quarters for Clerk, European Hospital, Lusaka	1,000
House for Medical Officer, Broken Hill	3,000
House for Dentist	3,000
House for Dental Mechanic	2,000
Office, etc., for above two Officers	2,000
House for Medical Officer, Balovale	3,000
House for Entomologist	3,000
House for Entomological Field Assistant	2,000
Total	£23,000

(iv) The minute from the Chief Secretary to the technical sub-committee of the Native Development Board instructed heads of departments to show separately the cost of bringing provincial teams up to full strength as such charges would be met from current revenue. The cost has accordingly been omitted. The Director of Medical Services on page 10 of his revised plan gives details of the probable cost of ensuring that at each provincial headquarters the Senior Medical Officer will be sufficiently free from routine duties to be able to consult freely and frequently with the Provincial Commissioner and to visit frequently all departmental and development activities in the province. The estimated cost over ten years is £22,650 recurrent and £7,000 capital or £29,650 in all.

31. The Director of Medical Services wishes it to be stressed that even the complete plans provided in 1945 concerned themselves only with basic works ; there was, even in *those* plans, no question of adding frills and fancy touches to a moderately complete and efficient service. The curtailment of those 1945 plans, which would have built up a reasonably complete and efficient service, means that the most we can now plan is a service not more than 75 per cent. complete in either geographical extent or technical adequacy. In the Director's words " We are at the stage of building the edifice rather than of bringing in the decorators ".

(i) The programme provides for the elimination and replacement of the following institutions which the Director described in the 1945 plans as "squalid places called hospitals":

Broken Hill European Hospital.
Broken Hill African Hospital.
Choma African Hospital.
Mazabuka African Hospital.
Livingstone European Hospital.
Fort Rosebery African Hospital.
Balovale African Hospital.

It is hoped that Mongu African Hospital will be replaced by a new hospital, forming part of a development centre, for which funds have been earmarked.

(ii) It provides also for the geographical extension of the department's activities by the opening of additional medical stations with large hospitals and satellite dispensaries at the following places:

Kalabo.
Mpika.
Namwala.
Lundazi.
Kaonde-Lunda area.
Serenje.

(iii) Enlargements of the following institutions is provided for:

Ndola African Hospital.
Fort Jameson African Hospital.
Livingstone African Hospital.
Kasama European Hospital.
Lusaka African Hospital.

(iv) The following special institutions are provided for:

Mental Hospital.
Tuberculosis Hospital.
Entomological Laboratory.

(v) Very considerable enlargement of the African Medical Training School is planned with concomitant expansion of the nearby teaching hospital. The cost of an assembly hall for the school and of a dormitory block will be borne by the Beit Trust. Provision is also made for a Sanitary Inspectors' School and for an African Maternity Hospital with midwifery training school, this last being financed as to capital costs by the Beit Trust.

(vi) One hundred and thirty additional rural dispensaries are provided for over and above five satellite dispensaries for the development centre.

(vii) A nutrition survey is included in the plans, also financed by the Beit Trust.

Feira District.

32. Provision is included for providing simple medical services, which will consist of a small hospital and two satellite dispensaries, in the Feira area of the Lusaka District. Sleeping sickness has been causing considerable trouble in the area, and medical facilities are urgently needed.

Staff.

33. (1) To serve the above institutions and to improve and extend the services rendered by the department the programme provides for the following staff, which includes necessary leave reliefs:

1 Senior Medical Officer.
19 Medical Officers.
40 Nursing Sisters (including Senior Sisters, Clinic Sisters, Theatre Sisters and Sister Tutors).
5 Health Inspectors (including two Senior Inspectors).
1 Health Visitor.
1 Pharmacist Inspector.
2 Medical Inspectors.

Of this staff, two Medical Officers, three Nursing Sisters, one Health Inspector, one Medical Inspector and the Health Visitor are for the development centre. As funds are provided under the development centre estimate for this staff, they do not appear in the estimates of expenditure in this section.

Housing.

(2) Provision is made for housing the additional staff and for working accommodation (*e.g.* dental consulting rooms and workshops) where this is required.

Copperbelt Townships.

34. Provision is made for a Government Medical Officer to be stationed at Luanshya, Kitwe and Mufulira, the three largest public townships on the Copperbelt. It will be noted that the original 1945 plan (page 12, para. (*j*)) has been greatly reduced.

Urban Clinics.

35. Annual reports have referred frequently to the valuable work done by these clinics, particularly among women and children. The number using them increases steadily. The programme provides for two additional urban clinics in public townships and for 50 per cent. of the cost of three additional clinics in mine townships.

Development Centres.

36. (1) Later in this memorandum where African rural development is specially dealt with it is stated that "The main function of the centre will be to train subordinate European and African staff". This statement of the function of a development centre, which was stressed by the Joint Development Adviser, has never been accepted by the Director of Medical Services so far as concerns the medical work and medical staff of the centre. In the Director's view the main purpose of a development centre so far as concerns the Health Department is to provide, for the area dealt with, the full medical and sanitary services which should be provided everywhere. Teaching, though secondary to this first purpose, is none the less an important function and investigation is necessarily coincidental to it. Dr. Haslam prefers the definition of functions given by the sub-committee which recommended development centres, namely, "The provision of full technical services; training of African staff; demonstration; investigation and experimentation. The area dealt with will probably be about 700 square miles—a circle of 15 miles radius". The requirements of one centre are :

(i) A hospital of 150 beds with addition of classrooms and teaching laboratory. The out-patients department will have to be specially adapted for teaching purposes.

(ii) A number of satellite dispensaries; the number will vary but for purposes of estimates it is taken as five. They should be about 10 miles from the centre and associated if possible with schools.

(iii) *European Staff* :
2 Medical Officers (hospital and teaching).
1 Senior Nursing Sister (hospital and teaching).
2 Nursing Sisters (hospital and teaching).
1 Health Visitor (area; maternity, child welfare, visiting).
1 Health Inspector (teaching and area).
1 Medical Inspector (teaching and area).

(iv) *African Staff* :
For Hospital :
2 Medical Assistants.
22 Hospital Assistants.
1 Microscopist.
1 Clerk.

1 Office Orderly.
1 Dispensary Packer.
1 Ambulance Driver.
3 Cooks.
14 Kitchen, Laundry, etc., Boys.

For Dispensaries :
5 Medical, Hospital or Dispensary Assistants.
5 Unskilled Helpers to above.

For Records, Work of Health Inspector, etc. :
1 Clerk.
2 Office Orderlies.
1 African Sanitary Inspector.
1 Motor Driver.

Teams of African Staff.

(2) The Health Department's representatives in the teams of African staff operating in the area of the development centre will be one Dispensary Assistant of two years' training and one Sanitary Assistant, also of two years' training, for each team. On the basis of an intake of 10 pupils per annum and a wastage of three in 10 during training, the development centre if built in the first year and training in the second can turn out about 50 Dispensary Assistants in the ten-year period. These may be supplemented by a few Medical Assistants who have completed the four-year course at the Medical Training School.

Development Districts and Areas.

37. The plan of development areas and development districts is given in detail in Section X—" African Rural Development." The " area team " working one development area will have members of all departments which are concerned with the development work. The Health Department staff will be :

1 Provincial Medical Officer (part-time) ;
1 Medical Officer (part-time) ;
1 Medical Inspector (part-time) ;
A district hospital, fully staffed ;
Area dispensaries, fully staffed.

Full provision for these services is made in the Health Department plans.

Headquarters Staff.

38. The staff of the headquarters of the Health Department will be strengthened by the addition of one Senior Medical Officer, one Accounting Clerk, and one Clerk-Librarian.

Headquarters Clinical Services.

39. Hitherto, except for regular visits by the Surgical Specialist to three railway line centres and very rare ones to other places, each hospital in the country has been a separate entity, theoretically complete in itself. As a very modest beginning, to provide at one place something more than hitherto of what medical science has to offer, the following additional posts are proposed : a second Surgical Specialist, a Mental Specialist, a Tuberculosis Specialist, and a Leprosy Specialist. This is a much reduced list of specialists compared with that which appeared in the 1945 plan (page 11, para. (*d*)) which included a Medical Specialist, an Ophthalmologist, an Anæsthetist, a Radiologist, and other posts which are now omitted.

Headquarters Laboratory Services.

40. It has already been recorded (para. 31) that an Entomological Laboratory must be built. One Entomological Field Assistant appears in the 1946 Approved Estimates ; a second is provided for in the development programme.

School Medical Services.

41. The 1945 plan required the appointment of three School Medical Officers. The reduction in the Health allocation necessitates deletion of this provision.

Headquarters Medical Store.

42. One additional Pharmacist is proposed, to be inspector of medical stocks throughout the country and inspector under the Pharmacy and Poisons Ordinance and the Dangerous Drugs Ordinance. These duties have to be left undone at present.

Provincial Headquarters Organisation.

43. The cost of establishing Provincial Medical Officers in each province as Health Department representatives is to be met from current revenue and has accordingly been omitted from these estimates (*see* para. 30 (iv) above). The 1945 plan provided for a Medical Officer of Health in each province, but these have been deleted.

Medical Stations.

44. It is proposed to establish six (or, including the Feira station, seven) new medical stations, as listed in para. 31 (ii). It was originally intended that each station should be staffed by two Medical Officers, two Nursing Sisters, one Health Visitor, and one Health Inspector, but in the modified plan this staff has had to be severely curtailed and the second Medical Officer, Health Visitor, and Health Inspector deleted. The Director regards the deletion of these officers as very serious indeed.

Leprosy Centres.

45. Considerable success is attending the establishment of such centres, one of which (Luapula) is under complete Government control, others (Chitokoloki, Mwami, Kawimbe, St. Margaret's) being under Mission auspices but having the entire cost paid by Government. One new centre, to be conducted under complete Government control and to be the centre of activity of a leprosy specialist and leprosy worker, and where African staff will be trained for the other centres, is estimated for. Assistance towards the capital cost of construction of this centre may possibly be provided by the Beit Trust.

African Medical Training School.

46. The development of this institution is urgent and important, since it is and will continue to be the principal, and, apart from the small output from the hospital at the development centre of five Dispensary Assistants a year (*see* para. 36), the only source of trained Africans by whom the hospital at the development centre, and the six new district hospitals, the two new special hospitals, and the 130 new dispensaries, are to be staffed. It is intended to enlarge the teaching and boarding capacity of the school to a size which will accommodate about 200 pupils and their wives. Enlargement of the African Hospital, Lusaka, will be necessary in order that sufficient clinical material may be available for the instruction of the increased number of pupils. The European staff is to be increased by one Medical Officer and one Sister Tutor.

African Sanitary Inspectors' School.

47. One of the great needs of the Health Department is the building up of a strong preventive sanitary branch. The sooner Africans can be trained in this work the sooner can an effective hygiene branch of the department be brought into action without the high cost of numerous European personnel. The school is provided for in the plan and will at first teach to a standard of a local certificate and later to the standard of the Royal Sanitary Institute's certificate.

10DP

Tuberculosis Work.

48. Tuberculosis among our Africans is increasing, and labourers returning from Southern Rhodesia show an increasing proportion of sufferers from this disease. There are at present practically no means of giving them the benefit of modern treatment for tuberculosis, and many return to their villages to infect others. The provision for a tuberculosis hospital (*see* list under para. 31 (iv)) should include accommodation for a few European patients. A special programme of work in connection with tuberculosis will have to be worked out and financed from funds not yet allocated. It was not possible to have this programme ready at this date.

Mental Hospital.

49. There is little doubt that there are in the villages a number of mental cases who are by no means always well treated by their fellows; but District Officers hesitate to commit them to the ordeal of confinement (sometimes necessarily in prison) pending certification and transfer to Southern Rhodesia. There is no mental hospital in Northern Rhodesia, but provision is made for one (which should include emergency accommodation for one or two European patients) in the development programme.

Disease Survey.

50. The 1945 plan presumed that a disease survey would be conducted from each of the five development centres then proposed. This duty will now be shared between the development centre and development area teams, but on this basis will be a shadow of what it should be.

Syphilis Campaign.

51. This was begun in 1939, stopped by the war, and restarted in the Ila country this year. The proposed hospital at Namwala will be of special value in dealing with local needs in this respect.

Nutrition Survey.

52. This project has attracted the interest of the Beit Trustees, so financial provision for it does not appear in the estimates. The Nutrition Officer arrived in October.

Maternity Hospital and Midwifery School.

53. The Beit Trust has generously offered to finance this project up to £6,000. Financial provision is therefore omitted from estimates. The generosity of the Beit Trust in providing funds as recorded is deeply appreciated.

Surplus Balances.

54. A surplus of about £44,000 of special development funds has been kept in hand for several reasons; accurate estimating of the cost of such a programme is quite impossible; various projects contemplated are not sufficiently crystallised as yet to permit even an intelligent guess at the cost (*e.g.*, village settlements for tuberculosis cases); there may appear good reasons to vary existing proposals as the plan proceeds. The building of more than one development centre will still further increase the surplus balance, but all will be required.

Summary of Financial Implications.

55. As has been done for the development plan as a whole, estimates of cost of the Health programme for ten years have been prepared and will be submitted to Legislative Council, which will be requested to approve expenditure shown for the first three years of the plan. There follows a summary of the financial implications of the plan insofar as the Health Department is concerned.

SUMMARY OF FINANCIAL IMPLICATIONS.—HEAD I.A, HEALTH.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Loan Funds.												
Replacements	2,000	—	2,000	70,000	—	70,000	110,000	—	110,000	180,000	—	180,000
New Hospitals—Laboratory	—	—	—	28,500	—	28,500	140,500	—	140,500	169,000	—	169,000
Extensions	—	—	—	15,000	—	15,000	20,000	—	20,000	35,000	—	35,000
Unallocated Balance	—	—	—	14,000	—	14,000	—	—	—	14,000	—	14,000
Total Loan	2,000	—	2,000	127,500	—	127,500	270,500	—	270,500	398,000	—	398,000
Colonial Development and Welfare Fund.												
African Medical Education	7,000	—	7,000	32,700	—	32,700	28,000	—	28,000	60,700	—	60,700
Urban Clinics	500	—	500	3,500	—	3,500	1,000	—	1,000	4,500	—	4,500
Leprosy Centre	1,500	—	1,500	13,000	—	13,000	—	—	—	13,000	—	13,000
Improved European Accommodation	5,000	—	5,000	11,000	—	11,000	14,000	—	14,000	25,000	—	25,000
Medical Services—Copperbelt	—	—	—	4,600	—	4,600	9,200	—	9,200	13,800	—	13,800
Rural Hospitals and Dispensaries	—	—	—	10,000	—	10,000	99,000	—	99,000	109,000	—	109,000
Rural Staff Housing	1,000	—	1,000	8,000	—	8,000	17,000	—	17,000	25,000	—	25,000
Feira Hospital	3,000	—	3,000	15,600	—	15,600	—	—	—	15,600	—	15,600
Training	—	200	200	—	650	650	—	14,458	14,458	—	15,108	15,108
Recurrent—Dispensaries and Clinics	—	—	—	—	6,350	6,350	—	158,950	158,950	—	165,300	165,300
Unallocated Balance	—	—	—	12,992	—	12,992	—	—	—	12,992	—	12,992
Total Colonial Development and Welfare Fund	18,000	200	18,200	111,392	7,000	118,392	168,200	173,408	341,608	279,592	180,408	460,000
Expenditure, 1946	—	—	—	—	—	—	—	—	—	—	40,000	40,000
												500,000
Surplus Funds.												
Feira Recurrent	—	4,636	4,636	—	12,636	12,636	—	28,064	28,064	—	40,700	40,700
Schemes, 1950-56	—	—	—	—	—	—	—	659,300	659,300	—	659,300	659,300
Total Surplus Funds	—	4,636	4,636	—	12,636	12,636	—	687,364	687,364	—	700,000	700,000
Total Colonial Development and Welfare Fund and Surplus Funds	18,000	4,836	22,836	111,392	19,636	131,028	168,200	860,772	1,028,972	279,592	920,408	1,200,000
TOTAL ALL SOURCES ...	20,000	4,836	24,836	238,892	19,636	258,528	438,700	860,772	1,299,472	677,592	920,408	1,598,000

SECTION V (i)

DEVELOPMENT PLAN HEAD I.B

AFRICAN EDUCATION—(ALLOCATION £1,486,000)

56. The 1945 plan for African Education is shown as Appendix C and gave the total estimated expenditure in ten years as £3,893,700. Deducting from this the current departmental expenditure of £148,000 per year, or £1,480,000 for ten years, the additional funds required amounted to £2,413,700 to carry out the plan in full. This plan has had to be drastically reduced to fit into an allocation of £1,486,000. Of this sum, £86,000 will be debited to loan funds (transfer of headquarters to Lusaka, £19,000; secondary school, £25,000; technical school, £12,000; staff housing for the two schools and Chalimbana, £25,000; other staff housing, £5,000). For the development plan itself, £1,400,000 is available and will be financed to the extent of five-twelfths from Colonial Development and Welfare Funds and seven-twelfths from Northern Rhodesia surplus balances.

57. The revised proposals now submitted for a ten-year plan for the development of African Education are based on the 1945 plan.

58. The revised plan has thus been formed on the following financial assumptions:

(*a*) During the period of the plan, Northern Rhodesia current revenue will provide for an annual expenditure which is not less than the 1946 estimates provision plus the amount required for normal increments of the 1946 approved establishment, plus the amount required for normal and inevitable increases of "Other Charges" Sub-heads, plus Public Works Department Extraordinary provision for necessary lesser works not provided in the Schedule of Capital Works approved by Legislative Council in connection with the proposed loan.

(*b*) A sum of £1,400,000 will be available over the period for capital and recurrent expenditure, from special development funds (Colonial Development and Reserve Funds).

(*c*) A recurrent expenditure of approximately £336,000 in the tenth year of the plan is acceptable and can be maintained in subsequent years from territorial resources.

59. Briefly the original plan is amended in the following respects:

(*a*) Elementary education (Sub-Standard A to Standard II) to be provided for 120,000 children instead of 157,000.

(*b*) Lower middle course (Standards III and IV) to be provided for 17,000 children instead of 20,000 (or 26,000 including the handyman's course).

(*c*) Upper middle course (Standards V and VI) to be provided for 3,750 children instead of 6,000.

(*d*) Provincial schools to be less elaborately staffed and established as the need arises.

(*e*) Teacher-training to be organised on lines described in para. 65, the total number of teachers to be trained being 625 Higher Teachers' Certificate, 1,700 Elementary Teachers' Certificate, and 300 Junior instead of 525 Higher Teachers' Certificate; 1,800 Elementary Teachers' Certificate and 2,000 ungraded in the original plan (para. 38).

(*f*) The total number of pupils engaged in secondary education, academic, vocational and technical, to remain approximately 600, but the mission societies to undertake some junior secondary (Forms I and II) education.

(*g*) The estimated staff requirements of the department to be reduced from 98 to 62 on the assumption that Government and mission societies will be agreeable to the appointment of approximately 14 mission educational secretaries to assist in the supervision of primary (Sub A to Standard VI) education.

(*h*) The transfer of the cost of the Publications Bureau to the account of the Commissioner for Native Development.

(*i*) The elimination of the provision for linguistic research.

(*j*) The *per caput* cost of education at the lower middle and upper middle stages of education to be restricted to £5 and £10 respectively instead of £6 and £12 as originally proposed.

(*k*) The transfer of the cost of post-secondary education to the Scholarship Fund made available by the Secretary of State's despatch sent under cover of Chief Secretary's minute No. EO/B/65 of the 11th of January.

These amendments can now be discussed in more detail.

Elementary Education (Sub-Standard A to Standard II).

60. The number of children in Government, Native Authority, and assisted elementary schools in March, 1945, was 106,706, of whom 80,366 were in the Sub-Standards. The Director has already drawn Government's attention to the need for consolidating and improving existing facilities for elementary education before embarking on any large schemes for further expansion. Measures have already been taken to this end. A certain amount of expansion is provided for and this should take place chiefly in those areas such as the Kaonde-Lunda Province, the Fort Jameson, Namwala and Mumbwa Districts, which are at present poorly equipped with schools. Capital expenditure will be largely devoted to replacing, wherever possible, temporary buildings by permanent or semi-permanent buildings and to improving furniture and equipment. It is estimated that £150,000 will be required on the basis of 750 schools, each costing £200.

Lower Middle Course (Standards III and IV).

61. There were 7,969 children enrolled on this course in March, 1945. The proposed roll of 17,000 follows the principle laid down in para. 13A (*b*) of Mr. Frisby's memorandum, that the course should provide for all children of the railway line compulsory education areas but admits only one in four of all others completing the elementary course. As noted in para. 59 (*j*), the estimated *per caput* cost has been reduced from £6 to £5. Existing lower middle schools will need to be replaced in many areas by more permanent buildings and it is estimated that £90,000 will be required on the basis of 200 schools, each costing £450.

Upper Middle Course (Standards V and VI).

62. The enrolment on this course was 1,780 in March, 1945. The Director is doubtful as to the desirability of providing for 6,000 pupils in the upper middle course, and thinks that the figure now suggested—3,750—is more in keeping with territorial requirements. As noted in para. 59 (*j*), the estimated *per caput* cost has been reduced from £12 to £10. The present number of upper schools is 35. Another 25 will require to be built, which, with replacements at five existing schools, will cost £15,000 on the basis of £500 a school.

Provincial Schools.

63. It is important to retain provision for these schools though their objective should be amended from that proposed in the original plan. It is not now the intention to provide junior secondary education at these schools. It is proposed that the scope

of the schools shall include a two-year handyman's course, such courses as rural development may require, including revision courses requested by departmental officers and refresher-promotion courses for elementary teachers. The schools, which will have European headmasters, should be so sited as to ensure close co-operation with the provincial or area teams. Capital expenditure has been allocated to the Colonial Development and Welfare Fund and recurrent expenditure to a separate reserve fund scheme.

Development Areas.

64. As noted in para. 63, one of the main links between the programme of the African Education Department and that of rural development is the "provincial" school. As the rural development programme is based on the development area conception and the full number of development areas envisaged is ten, it is hoped that, if this type of school proves successful, there will be sufficient funds available to provide one school for each of the ten development areas.

Teacher-Training.

65. *A.—Training of Elementary Teachers at Development Centres.* The original plan suggested that it was desirable and might be possible to concentrate the training of certificated teachers for the elementary schools at the five development centres which were projected in the memorandum by Mr. Clay. The proposal was reluctantly accepted by the Advisory Board in view of the statement that the whole scheme of development centres would have to be drastically revised if it were not accepted. As the present intention appears to be that not more than one development centre shall be established, further research into the ways and means by which the training of elementary teachers could be integrated into the development centres has been abandoned for the time being. If an adequate number of regional centres is later established—whether these centres follow the pattern of the development centres as originally conceived or an amended pattern—provision must be made for the village school teacher to come to these centres at some stage in his career for a period of training alongside those who are working or are destined to work in the same field as he is.

B.—Present Proposals. The new proposals for the reorganisation of teacher-training in the Territory are based on the principles put forward in a report by the Advisory Committee on Education in the Colonies. The essence of the Advisory Committee's advice is to be found in para. 4 of their report, where they say, "It is necessary that the number of trained teachers should be increased at the quickest practicable pace, but it is also necessary that a skilled staff should be used economically and that during the course of rapid expansion some institutions should, over a period of years, be gradually built up so that, when the necessity for expansion diminishes or the funds that it presupposes dry up, the territories may have at their disposal some well-organised, well-founded institutions upon which they can rely, not only for the development of educational ideas and methods specially suited for local conditions, but also for the continued replenishment of the normal wastage in the body of teachers needed." The practical working-out of this policy is suggested in paras. (9) and (10) of the report, in which is envisaged the foundation of two or three "high grade" or "territorial" institutions and a number of "lower grade" or "regional" centres, the prime function of the former being to train Africans to staff the small training centres and to influence to the greatest possible extent the quantity and quality of education after the primary stage. It is further the intention that the "high grade" institutions shall assist in supervising the "lower grade" centres, shall be in close relationship with (*a*) the schools, (*b*) other social service departments, (*c*) institutions of higher education, and that one of the "high grade" institutions shall be regarded as a "research centre."

Assessing our existing teacher-training institutions on the standards suggested in the report, it may be said that we now have one "high grade" institution—Chalimbana—and (omitting training centres that are specifically for girls) sixteen "lower grade" centres, including Chalimbana and Senga Hill.

Before going on to outline the proposed reorganisation of institutions, it will be as well to summarise the forms of male teacher-training that are required for the Territory. They are :

(*a*) Junior	(J)	for Elementary Schools.
(*b*) Elementary Teachers' Certificate ...	(T4)	,, ,, ,,
(*c*) Higher Teachers' Certificate (*ex* serving Elementary Teachers' Certificate teachers)	(T3)	,, Lower Middle Schools.
(*d*) Higher Teachers' Certificate (*ex* Form II)	(T2)	,, Upper Middle Schools.
(*e*) Degree and Diploma of Education (Makerere or Fort Hare)	(T1)	,, Junior Secondary Schools and Assistant Education Officers.
(*f*) Supervisors' and Head Teachers' Course (one year)	(S)	replacing the present Jeanes Supervisors' Course.

Note.—(i) The present Higher Teachers' Certificate Course is a two-year course taken by (*a*) serving Elementary Teachers' Certificate teachers, (*b*) ex-Form II candidates. It is proposed to reserve the present course for serving Elementary Teachers' Certificate teachers and to institute a three-year course for ex-Form II candidates to qualify them to become teachers in the upper schools and to obviate the necessity for posting matriculation plus Higher Teachers' Certificate course (as proposed in Mr. Frisby's plan) to these schools.

(ii) The categories T1, T2, etc., have been adopted for ease of reference.

66. It is proposed that—

(*a*) Chalimbana shall continue to be the highest grade institution and the " research centre " offering the courses S, T4, T3, T2. The Junior Secondary (Forms I and II) section will be transferred elsewhere ;

(*b*) the Standing Committee of Advisory Board be asked to make proposals for the establishment of two mission institutions which shall provide Junior Secondary education (Forms I and II) and the T3 course ;

(*c*) the Standing Committee of Advisory Board be asked to make proposals for rationalising the number of existing Elementary Teachers' Certificate centres so that there are nine mission " regional " centres for the training of elementary teachers.

Chalimbana and the two mission institutions would rank as " high grade " or " territorial " centres. The mission centres would each be staffed by three European educationists (in addition to African staff), for each of whom a grant of £400 per annum would be paid.

The " lower grade " or " regional " centres would receive a grant of £200 per annum in respect of one European educationist at each centre.

It is confidently expected that at the end of the ten-year period, the " regional " centres will be wholly staffed and run by Africans and that the need for " European grants " will have disappeared. It is further expected that not more than six centres will then be required to furnish replacements and allow for small additions.

The amount and nature of the supervision which the " territorial " centres will afford to the " regional " centres is a matter for departmental arrangement. A close relationship already exists between Chalimbana and the social services departments. The teaching diploma of Makerere College requires that the student-teacher shall have a year's practice teaching under supervision ; this will be carried out at the " territorial " centres and so establish a link between the centres and Makerere.

It will be recognised that this scheme retains the participation of the mission societies in the work of teacher-training and at the same time provides for the logical evolution that the training of elementary teachers should pass into African hands.

67. The Standing Committee of the African Education Board at its meetings on the 12th and 13th of August, 1946, recommended that mission teacher-training centres, in such number as Government in consultation with the mission societies shall decide, shall continue to provide for the training of teachers for the elementary schools. The committee further recognised the need for teacher-training to be closely correlated with the training of other Africans engaged in the development of the basic services of the Territory and suggested that this correlation should be effected by the provision of refresher and promotion courses for teachers and similar social workers at any regional centres which Government may establish. At a further meeting held on the 16th October, the committee endorsed the general principles and proposals of the revised plan. They further agreed that, provided the mission societies were given the opportunity which the plan offers of retaining their participation in primary education through the appointment of mission education secretaries, and of sharing in secondary education by the establishment of two mission institutions, the initial training of elementary teachers should be given at development centres if Government so desired. The committee required that due provision should be made for the spiritual welfare of students at these centres.

Secondary Education : Academic.

68. Mr. Frisby's plan proposed that all academic secondary education should be concentrated for the time being at " Munali " with a possible extension, later, of junior secondary (Forms I and II) facilities at the provincial schools. It suggested an annual entry of 100 to " Munali ", whose roll would eventually be 300, made up of : Form I, 100 ; Form II, 100 ; Form III, 50 ; Form IV, 50.

The amended proposals provide for an annual intake of 125 to the junior secondary classes : Munali, 75 ; the two mission institutions, 25 each. On the other hand, provision is made at present for only 25 to pass on annually to Form III but this course is extended to three years, *i.e.* Forms III, IV, V, as it is thought probable that the extra year will be required to give the pupils a reasonable chance of passing the Makerere College Entrance or the South African Matriculation Examination.

Secondary Education : Technical.

69. The introduction of technical education as distinct from artisan-training depends on social and economic factors, the eventual form of which cannot at present be easily assessed. Moreover, the Director is of the opinion that certain forms of technical training, such as mechanical and motor engineering, electrical engineering, draughtsmanship and surveying, can best be undertaken through a carefully planned apprenticeship to the departments concerned rather than in a school. The school should be used to supplement the instruction given through apprenticeship on the same lines as the proposed County Colleges in England. The amended proposals therefore provide for the continuance of the existing Trades School with its courses in carpentry, building construction, tailoring, metal work and blacksmithing. The annual intake to the 2–3 years' apprenticeship course will be 50, and provision is made for 25 apprentices to pass on each year to a further two years' course to qualify as instructors and improvers. The total enrolment of the Trades School will be

approximately 150. "Munali" will also accommodate a one-year clerical course of 15 pupils. It has yet to be decided whether the members of this course should be recruited from Standard VI or Form II.

It is intended that the Trades School should be sited in close proximity to the Academic Secondary School.

70. It may be convenient here to summarise the proposed post-primary (post-Standard VI) facilities for boys.

Summary of Post-primary Facilities for Boys.

Course	*Length of Course in Years*	*Approximate Total Annual Entry*	*Centre*
A.—Teacher-Training :			
(*a*) T4—Elementary Teachers' Certificate.	2	150–200	Chalimbana and nine mission centres.
(*b*) T3—Higher Teachers' Certificate.	2	45–60	Chalimbana and two mission centres.
(*c*) T2—Higher Teachers' Certificate.	3	20	Chalimbana.
(*d*) S—Supervisors and Head Teachers	1	10–15	Chalimbana.
(*e*) T1	4	5–10	Makerere, Fort Hare.
B.—Junior Secondary :			
Forms I and II	2	125	Munali and two mission centres.
C.—Full Secondary :			
Forms III–V	3	25	Munali.
D.—Artisan Training :			
(*a*) Apprentices	2–3	50	Munali
(*b*) Instructors and Improvers	2	25	Munali.
E.—Clerical Course ...	1	15	Munali.

Female Education.

71. Mr. Frisby's memorandum made no specific provision for girls' education apart from the enrolment of 50 at the Government academic secondary school. It is probable that girls will not attend this school and that separate provision at selected mission schools will be made. It is unlikely that the total annual entry to junior secondary classes will exceed 50 at the end of the ten-year period.

The main lines of development will be directed towards—

(*a*) increasing the number of girls attending elementary and lower middle schools ;
(*b*) providing courses in homecraft and infant welfare ;
(*c*) increasing the number of female teachers and helpers.

The Standing Committee on Female Education of the Advisory Board will draw up more detailed plans for the accomplishment of these ends.

The recurrent expenditure on girls' education up to Standard VI has been included in the general table of recurrent expenditure which provides for increased grants to European staff, and £35,000 has been allocated to cover capital expenditure which will be mainly in the form of grants to mission societies.

Departmental Staff.

72. The total number of departmental staff in the original plan was 98. It is proposed to reduce this to 62, exclusive of clerical staff, allocated as follows :

Director	1
Deputy Director	1
Senior Woman Education Officer ...	1
Adult Education Officer	1
Education Officers	26
Women Education Officers	12
Principals	2
School Welfare Officer	1
Headmasters	7
Masters	5
Industrial Instructors	4
Clerical Instructor	1
Total	62

Educational Secretaries.

73. It is proposed that the larger mission societies should appoint educational secretaries who would be responsible for the organisation of primary school education in their societies and for liaison with the department. Several unofficial appointments of this nature already exist and have proved of great value. It is estimated that 14 such appointments will be required and it is suggested that an annual grant of £350 plus £50 travelling expenses should be provided for each secretary. The cost of these appointments has been included in the general table of recurrent expenditure under the *per caput* costs of primary education (Sub-Standard A to Standard VI).

Conclusion.

74. The plan envisages an early consolidation of the provision for elementary education and the training of elementary school teachers, a fairly constant expansion at the lower middle and upper middle school levels and an early expansion of facilities for secondary and technical education and for the training of higher grade teachers. It is difficult in present circumstances to signpost the stages of expansion, but it may be of use to indicate that it is hoped—and the estimates reflect that hope—that :

(*a*) the full departmental staff will be available by the end of the fifth year ;

(*b*) all the educational secretaries will have been appointed by the end of the third year ;

(*c*) the " high grade " centres will be working by the end of the third year ;

(*d*) the new Government secondary and technical school will be completed by the end of 1949.

Finance.

75. Estimates of the cost of the amended plan are shown in the accompanying tables. The first year of the plan is taken to be 1947, although it is apparently intended that applications for assistance from the Colonial Development and Welfare Fund should be made in 1946. It should be noted that these estimates provide for the cost of training elementary teachers, whereas in Mr. Frisby's plan this expenditure was included in the cost of the development centres. Summary of financial implications follows.

SUMMARY OF FINANCIAL IMPLICATIONS.—HEAD I.B, AFRICAN EDUCATION.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Loan Funds.												
Loan Buildings	—	—	—	86,000	—	86,000	—	—	—	86,000	—	86,000
Colonial Development and Welfare Fund.												
Government School Buildings	19,270	—	19,270	43,870	—	43,870	56,130	—	56,130	100,000	—	100,000
Building Grants—Missions	15,660	—	15,660	37,660	—	37,660	34,840	—	34,840	72,500	—	72,500
Building Grants—Native Authorities	13,162	—	13,162	65,662	—	65,662	161,838	—	161,838	227,500	—	227,500
Provincial Schools—Capital	6,000	—	6,000	30,000	—	30,000	13,500	—	13,500	43,500	—	43,500
Mass Literacy	—	2,500	2,500	—	3,500	3,500	—	1,500	1,500	—	5,000	5,000
Scouts and Guides	—	450	450	—	1,500	1,500	—	4,500	4,500	—	6,000	6,000
School Meals—Capital	—	—	—	8,000	—	8,000	16,000	—	16,000	24,000	—	24,000
Schemes, 1950-56	—	—	—	—	—	—	—	65,360	65,360	—	65,360	65,360
Total Colonial Development and Welfare Fund	54,092	2,950	57,042	185,192	5,000	190,192	282,308	71,360	353,668	467,500	76,360	543,860
Surplus Funds.												
Departmental Staff	1,040	3,955	4,995	2,620	21,400	24,020	2,500	68,100	70,600	5,120	89,500	94,620
Area Team Staff	1,060	1,240	2,300	2,700	9,800	12,500	2,500	53,200	55,700	5,200	63,000	68,200
Provincial Schools	—	—	—	—	9,860	9,860	—	115,240	115,240	—	125,100	125,100
Barotse National School	—	3,385	3,385	—	10,685	10,685	—	26,965	26,965	—	37,650	37,650
Jeanes School	300	1,017	1,317	500	6,000	6,500	—	21,915	21,915	500	27,915	28,415
Munali Secondary School	440	1,445	1,885	1,400	7,140	8,540	1,000	17,780	18,780	2,400	24,920	27,320
Girls' School, Mindolo	—	792	792	—	3,020	3,020	—	9,915	9,915	—	12,935	12,935
Primary Schools	—	4,793	4,793	—	23,010	23,010	—	260,490	260,490	—	283,500	283,500
Schemes, 1950-56	—	—	—	—	—	—	—	178,400	178,400	—	178,400	178,400
Total Surplus Funds	2,840	16,627	19,467	7,220	90,915	98,135	6,000	752,005	758,005	13,220	842,920	856,140
Total Colonial Development and Welfare and Surplus Funds	56,932	19,577	76,509	192,412	95,915	288,327	288,308	823,365	1,111,673	480,720	919,280	1,400,000
TOTAL ALL SOURCES	56,932	19,577	76,509	278,412	95,915	374,327	288,308	823,365	1,111,673	566,720	919,280	1,486,000

Sub-Head—Publications Bureau—(Allocation £50,000)

76. It is proposed that a Northern Rhodesia Publications Bureau should be established with headquarters at Lusaka. The Bureau will be controlled through a standing committee on publications and information. The heads of technical departments, together with the Information Officer and the Director of the Bureau, will be members of this committee, with the Commissioner for Native Development as chairman. This committee will co-ordinate the work of the Bureau and the Information Officer to fit into the general scheme of development and to meet the requirements of individual departments for such assistance as the Bureau can give them. Because much of the work of the Bureau is not of any great interest to all the technical departments, a quorum of the committee will be for ordinary routine matters the Commissioner for Native Development, the Director of African Education, the Information Officer, and the Director of the Bureau. For ordinary day-to-day work the Director of the Bureau will refer matters to the Commissioner for Native Development.

(1) *The functions of the Bureau* will be :

(*a*) to encourage reading among Africans by means of libraries, bookstalls, and colporteurs, and especially to make available suitable literature in the vernacular and simple English ;

(*b*) to ensure that suitable textbooks and posters, both in English and in vernacular languages, are available for school and adult use ;

(*c*) to organise the production of books, magazines and posters to meet the requirements of (*a*) and (*b*) above ;

(*d*) to organise provincial committees on publications ; one of these will be the existing Ndola Committee ;

The Bureau will use existing distributing agencies to the full, particularly the United Society for Christian Literature and other mission enterprises.

(2) *To carry out these functions* the Director of the Bureau will be responsible, under the Publications and Information Committee, for :

(*a*) the preparation (in co-operation with a professional textbook committee controlled by the Director of African Education), translation and publishing of school textbooks ;

(*b*) the translation, printing, publishing and distribution and sale of vernacular literature for general reading ;

(*c*) the purchase, distribution and sale of books in English suitable for general reading ;

(*d*) the preparation, translation and publishing of mass literacy pamphlets and posters ;

(*e*) the preparation, translation, printing and distribution of pamphlets, posters, etc., for special campaigns by individual departments.

(3) *Staff*. As soon as the officer can be spared, it is intended to second from the African Education Department a suitable officer as Director of the Bureau. He will be responsible for all activities of the Bureau except the preparation of textbooks ; this is a professional task and will be carried out by the African Education Department. The actual translation work will be done by twelve trained African translators who will cover the main African languages in which books will be published. These will be full-time employees of the Bureau. They will work on translation under acknowledged European experts in each language ; these will in most cases be missionaries, who will be paid on output. As the translators become more efficient and better trained, some of them may be permitted in due course to work without this supervision. The manuscripts in local vernaculars prepared by the translators or submitted to the Bureau by missionaries or African writers will be revised by four readers. The readers will be highly trained Africans qualified to check manuscripts and make corrections in subject matter, style or local African idiom. Two Africans now in training in London should be returning in 1947 and

may make suitable readers. It is on the readers that the general standard of publications will largely depend. In addition to the translation and reader staff one European secretary-stenographer and one African clerk will be needed.

(4) *Estimates.* The estimated expenditure of the Bureau is very small, and provides only for normal running costs with a small balance to cover the time lag between paying for printing and recovering the outlay from book sales. Departments using the Bureau will pay the full cost of the services rendered by the Bureau, *e.g.*, the Education Department textbooks, and if the Health Department has pamphlets or posters prepared for an anti-malaria campaign, it will pay for them. If for reasons of public policy it is considered necessary by Government that certain or all publications for general reading should be retailed at less than cost then the Bureau will require that this loss should be made good from public funds.

(5) *Joint Publications Bureau.* It may be possible to establish a Joint Bureau to serve Nyasaland as well as Northern Rhodesia; this is being investigated. If it is established, the Joint Bureau may be financed from the regional allocation under the Colonial Development and Welfare Fund, either in whole or in part. But a bureau of this kind is urgently required in Northern Rhodesia, and the Legislature is being requested to approve the local Bureau in order to allow it to proceed without further delay.

Financial Implications.

77. No estimates are submitted for capital expenditure. Housing and office accommodation will be required in Lusaka.

Recurrent Expenditure (*average costs*):

European Staff:		
Director (scale £720—£920)	£920	
Secretary	£350	
Fees—language experts (part-time)	£400	
		£1,670
African Staff:		
4 Readers (£10—£12 p.m.)	£600	
12 Translators (£8—£10 p.m.)	£1,320	
African Clerk (£8—£10 p.m.)	£110	
		£2,030
Other charges, including travelling		£1,000

Publishing Costs. Copyright fees, printing and distribution costs and payment of distributing staff will require an initial fund of £1,500 in each of the first two years, which may have to be increased if a large number of publications are undertaken at the start of the programme. Against this outlay there will be revenue from the sale of books, but initial capital is necessary to start the Bureau.

Total Cost:

Recurrent Charges (£4,700 × 10 years)	£47,000
Publishing and Distributing Fund	£3,000
Total	£50,000

SECTION V (ii)

DEVELOPMENT PLAN HEAD I.C

EUROPEAN EDUCATION—(ALLOCATION £250,000)

78. £250,000 from loan funds has been allocated to meet expenditure on capital works. No detailed plan has been prepared: when it is available it will be submitted to Legislative Council for approval.

SECTION VI

DEVELOPMENT PLAN HEAD II.A

AGRICULTURE—(Allocation £776,000)

79. The development plan prepared in 1945 for Agriculture and Forestry has been amended only in minor details. It is shown as Appendix D. From the total allocation of £776,000, a sum of £140,000 will be debited to loan funds covering expenditure on soil conservation works (£100,000), aerial survey (£10,000), loan buildings—chiefly the cost of transferring headquarters to Lusaka—(£30,000). The balance of expenditure on development, amounting to £636,000, will be met in respect of five-twelfths from the Colonial Development and Welfare Fund and seven-twelfths from Northern Rhodesia reserve funds.

80. The plan assumes that territorial annual revenue will bear the cost of the 1946 approved establishment, including increments and inevitable increases in other charges incurred by the approved staff.

The estimates assume that the average salaries are: Agricultural Officers, £600; Agricultural Supervisors, £500; African Graded Staff, £50 (including rations); ungraded employees, £25 (including rations). European houses have been estimated for at £2,000 per house in townships and £1,000 in rural areas. Houses for African staff appear at £50 in urban and £30 in rural areas.

The Present Position.

81. Paras. 1 to 3 of the 1945 plan give an outline of the present position as regards agriculture. The plan which follows is divided into three sections: "A.—Services to Africans," "B.—Services to Europeans," "C.—Administration and Research." Attached to the 1945 plan is an appendix giving an outline of agricultural programmes for the different areas of the Territory. These are based on the ecological survey and give an invaluable guide to the potential resources of each area. This appendix is a document of the greatest importance for all officers working on rural development and must be carefully studied in development centres and development districts.

A.—Services to Africans.

82. The agricultural programme for African areas aims first at preservation of land and improvement of diet, an ultimate improvement in economic conditions, and in time a more concentrated distribution of population. The Director of Agriculture (in para. 5 of his 1945 plan) issues a warning that it would be rash to predict that the resulting improvement in agro-economic conditions would be such as to enable the Territory to support from its own revenues the greatly augmented joint social services at the end of the ten-year period.

Agricultural Areas.

83. Northern Rhodesia falls into ten main natural divisions or areas. These are given in para. 8 of the agricultural plan. The ten "areas" appearing in the "Rural Development Plan" (*see* Section X) correspond in general with the agricultural divisions, but there are minor modifications in boundaries which make the rural development areas approximate more closely to existing boundaries of administrative districts. These modifications have been made with the full approval of the Director of Agriculture, but the sub-committee of the Native Development Board has expressed the view that as the agricultural areas originally outlined have been modified to fit into administrative requirements in the recommended development areas, every effort should be made gradually to adjust administrative district boundaries to the same end.

Agricultural Staff in Area Teams.

84. Para. 9 of the agricultural plan gives a table showing proposed staffing of each area. The *Agricultural Officer* working in the districts concerned will be a member of the development area team. He will be responsible for the general direction of agricultural work in the area, for surveys requiring specialised knowledge, and for the devising and supervision of any experimental work necessary. *Agricultural Supervisors* under the direction of the Agricultural Officers will be in charge of experimental stations and of extension work through the medium of the African staff. They should be on ten-year contracts and these posts will ultimately be filled by Africans. *African Rural Assistants* (corresponding to the present graded staff) will be men who have passed Standard VI and have had two years of special training. They should be able to carry out written instructions, to convey the gist of such instructions to the ungraded staff, and to report in writing. They will be immediately responsible for the supervision of the ungraded staff. The educational standard of the *ungraded staff* will not at first be a matter of great moment, but they should be intelligent and responsible. One year of initial training will probably be sufficient as they will be learning throughout their period of service.

Distribution of Agricultural Staff.

85. It has been assumed that there are approximately 320,000 African families in Northern Rhodesia. Many of these will not be served by area teams, either because they are urban or industrial families or because they inhabit regions so remote or sparsely inhabited that it would be uneconomic to provide services for them. It is calculated that during the ten-year period area teams will have to deal with about 200,000 families (800,000 to 1,000,000 souls). Departmental experience has shown that one ungraded employee to 200 families is, generally, sufficient staffing, and on this basis 1,000 ungraded employees will be required. The more senior staff is calculated, as a general working arrangement, at one Rural Assistant to every five ungraded staff, one Agricultural Supervisor to every seven Rural Assistants, and one Agricultural Officer to every three Agricultural Supervisors.

Areas of Work.

86. Agricultural work should obviously be concentrated on regions which are in greatest need of assistance or which afford the best opportunity for development by virtue of their position, population, and soils. The ultimate aim is to produce conditions which will enable thriving concentrations of population to be established. It follows that large, inhospitable regions will have to be neglected at first in the hope that conditions in the more favourable regions will be made so attractive that there will be a voluntary movement into them from the remainder.

Area Programmes.

87. In each development area the agricultural part of the team's programme will be :

(*a*) Land conservation work by whatever methods are necessary and appropriate.
(*b*) Redistribution of population where necessary.
(*c*) Improvement in agricultural method.
(*d*) Crop improvement by selection and introduction.
(*e*) Fostering of winter gardens where possible.
(*f*) Introduction or development of economic crops.
(*g*) Establishment of African farm settlements (at first only in certain areas).
(*h*) Experimental work rendered necessary by any of the foregoing.

Soil-Population Surveys.

88. Before work can start in any area a detailed soil-population survey conducted jointly by administrative and agricultural staff will be necessary where this has not already been done. These surveys alone can produce the fundamental information on which all sound work must be based.

Experimental Stations.

89. Small experimental stations will be required, partly to provide for trial of crops and methods and partly to give new staff practical experience under local conditions.

African Agricultural Supervisors.

90. During the ten-year period a senior class of African employee should develop which will in time take over the duties of the European Agricultural Supervisors. These men should be of matriculation standard plus a diploma course in agriculture taken at Makerere or some similar institution. It is assumed that the training would cost £250 per pupil, and if 20 men are trained the cost will be £5,000. It is suggested that payment should be made from the Scholarship Fund, and no provision is made in the development expenditure on agriculture.

Loan Projects.

91. Provision has been made for aerial surveys (£10,000) and for major soil conservation works (£100,000) under loan funds. Experience has shown that great economy in time and in ground staff can be secured in special circumstances if vertical aerial photographs are available. It is, in fact, almost impossible to plan major soil conservation works efficiently without them. Notably in the Fort Jameson Native Reserves, but also in other more limited areas, soil conservation works are necessary on a scale entirely beyond the capacity of the local inhabitants. Other loan projects are :

Transfer of headquarters to Lusaka, plus housing	£22,000
Staff housing in townships other than Lusaka	8,000
	£30,000

making the total loan programme £140,000.

Recruitment of Staff for Area Teams.

92. The proposed rate of recruitment of agricultural staff for area teams is shown in Table II (para. 19) of the agricultural plan. It will be appreciated that this table will have to be modified each year and depends on how rapidly new staff can be recruited, absorbed and housed.

Estimated Development Expenditure.

93. *A.—African Agriculture. Recurrent expenditure* charged to development funds is estimated to be £420,000 during the ten-year period. The annual figures are given in Table III, para. 20, of the agricultural plan.

Capital expenditure. Total capital expenditure is :—

31 rural houses at £1,000	£31,000
1,200 quarters for African staff at £30	36,000
Layout, building, equipment—15 stations	20,000
Labour quarters	10,000
70 vanettes at £300	21,000
Camp equipment	2,000
Total	£120,000

B.—Services to European Farmers.

94. Until the slump the Agricultural Department was organised to deal almost exclusively with European farming. In the years that followed, the meagre resources were devoted mainly to building up from scratch a rudimentary agricultural service for Africans, though the advisory services of Agricultural Officers remained available to European

farmers. In 1942 a whole-time Agricultural Officer was made available for advisory and soil conservation work on European farms and in 1944 a station was opened near Lusaka to deal with problems of European wheat-farming. Work on the Fort Jameson tobacco station was suspended at the outbreak of the war but was started again on a smaller scale in 1944. There can be no question that the European farming industry merits wider agricultural services than it has enjoyed in the recent past, and that wise expenditure on European agriculture is likely to yield greater returns in the improvement of the territorial finances than is equivalent expenditure on African agriculture.

95. It is generally accepted that the problems of the European farmer in Northern Rhodesia are more economic than agronomic and that the need for advice and assistance is greater in the pastoral than in the agricultural side of the industry. Moreover, the agronomic problems are common to the two Rhodesias, and to a lesser extent to the Union of South Africa, and the results of research work, particularly in Southern Rhodesia, are applicable to Northern Rhodesia and are available to our farmers. It follows that once provision is made for the essential minimum of agricultural research and advisory work in Northern Rhodesia, it would be better to devote the balance of any funds available to the direct improvement of the economic conditions of European farmers and to the provision of services for the pastoral industry.

96. The 1945 plan was recently examined by the Farming Development Committee and approved with the following amendments which do not greatly affect the total costs shown in the original plan. The programme as amended by the Farming Development Committee will be—

(1) Two whole-time Agricultural Officers for advisory and soil conservation work in the railway belt.

(2) One part-time Agricultural Officer for similar work in the Eastern Province.

(3) Continuance and gradual expansion of work at Lusaka Wheat Station (one Agricultural Supervisor employed).

(4) Continuance and expansion of work at Fort Jameson Tobacco Station (one Agricultural Supervisor employed).

(5) Provision of Agricultural Supervisor for work at Mazabuka Research Station in collaboration with the Veterinary Department.

(6) Payment of up to £2,500 in 1947 and of up to £2,000 in 1948 to cover the actual expenses of a Tobacco Adviser to be appointed and employed by the North-Western Rhodesia Tobacco Association. The question of continuance of the subsidy on a reduced scale or of the taking over of tobacco advisory work by the department will then be reconsidered.

In addition, the European farming industry will share the administrative and research services estimated for in Section C. The provision of an Irrigation Engineer has been deleted from the agricultural plan in view of the addition of new Head V.B to the original territorial plan.

Pasture Research.

97. No provision has been made in the agricultural plan for a clear necessity—pasture work. Research work could probably be done more economically for the three territories by some central organisation working under the Central African Council. The local application of this research would be more a matter for the Veterinary Department.

Estimates of Expenditure.

98. *B.—Services to European Farmers. Recurrent.*—The recurrent charges (personal emoluments and other charges) for the staff given in paragraph 96 are estimated to cost, during the ten-year period, £31,000 over and above the Approved Estimates for 1946.

Capital expenditure in excess of Approved Estimates is £5,000.

10DP

Economic Development.

99. It should be noted that " A—African Agriculture " and " B—European Agriculture " will both be profoundly affected by any schemes of agricultural development and marketing evolved under Head VI of the territorial plan, which has an allocation of £500,000.

C.—Administration and Research.

100. The present administrative staff consists of the Director, Assistant Director (since 1940 engaged exclusively on field work) and two European clerks. A third clerk will be required at a comparatively late stage in the programme. The entire headquarters staff is to move to Lusaka and provision for capital expenditure is made under loan funds (*see* para. 91). For efficient and economical working of the enlarged department, it will be necessary to secure the services of an Agricultural Chemist, an Entomologist-Mycologist and an Economic Botanist (plant breeder). The Chemist and Entomologist will require modern laboratory accommodation and should be stationed at Lusaka. The Botanist will require land for plot work and would best be posted to the Lusaka Wheat Station. He will be mainly concerned with general crop improvement for both Europeans and Africans. He would guide and collate the crop selection work of the various area teams and would initiate plant breeding work, notably on wheat, on his own account.

Estimates of Development Expenditure.

101. The recurrent costs of administration and research services in excess of current Approved Estimates is £27,000 for the ten-year period. The capital charges will be :

	£
Two houses at £2,000	4,000
Laboratory and equipment	4,000
One house (Wheat Station)	1,000
Field laboratory (Wheat Station) ...	200
Six vanettes at £300	1,800

ay a total of £11,000 exclusive of cost, charged to loan funds, of transfer of headquarters Lusaka.

uropean Relieving Staff.

102. In Sections A, B and C above, no provision has been made for relieving staff. wing to the necessity of keeping within the limits allocated to the department, the ovision for relieving staff must be kept to a figure well below actual requirements. he present plan provides for two Agricultural Officers and two Agricultural Supervisors, d by appointing them late in the plan, the funds required to pay for them have been duced to £10,000.

ummary of Expenditure from Development Funds.

103. The following is a summary of expenditure from development funds :

	Recurrent	*Capital*	*Total*
	£	£	£
African agriculture	425,000	120,000	545,000
European agriculture	30,000	5,000	35,000
Administration : Research ...	36,000	10,000	46,000
European relieving staff	10,000	—	10,000
Total	501,000	135,000	636,000
And Loan expenditure	—	140,000	140,000
Final Total	501,000	275,000	776,000

mmary of Financial Implications.

104. The 1945 programme gives full details of expenditure then proposed, and the 6 plan gives the minor amendments since adopted. A tentative summary of financial lications, modified in the light of recent circumstances, follows.

SUMMARY OF FINANCIAL IMPLICATIONS.—HEAD II.A, AGRICULTURE.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Loan Funds.												
Transfer of Headquarters and other Housing	—	—	—	30,000	—	30,000	—	—	—	30,000	—	30,000
Soil Conservation	2,000	—	2,000	16,000	—	16,000	84,000	—	84,000	100,000	—	100,000
Aerial Survey	—	—	—	10,000	—	10,000	—	—	—	10,000	—	10,000
Total Loan	2,000	—	2,000	56,000	—	56,000	84,000	—	84,000	140,000	—	140,000
Colonial Development and Welfare Fund.												
Research Services—Recurrent	—	—	—	—	4,100	4,100	—	31,900	31,900	—	36,000	36,000
Research Services—Capital	—	—	—	10,000	—	10,000	—	—	—	10,000	—	10,000
Capital Works	—	—	—	31,000	—	31,000	100,000	—	100,000	131,000	—	131,000
Extension of Agricultural Services to Africans, 20 per cent.	—	—	—	—	—	—	—	88,000	88,000	—	88,000	88,000
Total Colonial Development and Welfare Fund	—	—	—	41,000	4,100	45,100	100,000	119,900	219,900	141,000	124,000	265,000
Surplus Funds												
Tobacco Adviser	—	2,500	2,500	—	4,500	4,500	—	—	—	—	4,500	4,500
Extension of Agricultural Services to Africans, 80 per cent.	—	—	—	—	23,000	23,000	—	314,000	314,000	—	337,000	337,000
Balance Unallocated	—	—	—	—	7,400	7,400	—	22,100	22,100	—	29,500	29,500
Total Surplus Funds	—	2,500	2,500	—	34,900	34,900	—	336,100	336,100	—	371,000	371,000
Total Colonial Development and Welfare Fund and Surplus Funds	—	2,500	2,500	41,000	39,000	80,000	100,000	456,000	556,000	141,000	495,000	636,000
TOTAL ALL SOURCES ...	2,000	2,500	4,500	97,000	39,000	136,000	184,000	456,000	640,000	281,000	495,000	776,000

SECTION VII

DEVELOPMENT PLAN HEAD II.B

FORESTRY—(ALLOCATION £314,000)

105. From the outset it was intended that forestry should develop into a separate department ; it was merely attached to the Agricultural Department at the start in 1929 as a convenience while the staff was small, and this arrangement was perpetuated by lack of funds. In 1937 the Pym Commission recommended its constitution as a separate department, but the staff was small and was further reduced during the war. The Director of Agriculture recommends that action should now be taken. He points out that the administration of the augmented Department of Agriculture will be a sufficient task in itself and that the long-term, specialised nature of forestry work and the fact that it has an important commercial side make it particularly desirable that the man in charge should be experienced and trained for his special duties. It is intended that the two departments should be established during the first year of the plan. Further consideration must be given to the possibility of establishing a joint Northern Rhodesia-Nyasaland Forestry Department.

106. In relation to the importance and magnitude of the work it should perform, the Forestry Branch is unquestionably the least adequately staffed of all Government departments. Until war conditions intervened the volume of timber produced annually in Northern Rhodesia exceeded that of the other East African Colonies combined, yet the existing staff is smaller than that of any East African Colony. The plan following, insofar as it provides for increased forestry service, can be called a development plan, but it contains nothing which could not reasonably be added to normal annual estimates on a territorial income such as Northern Rhodesia has enjoyed during the past few years.

107. The ten-year plan for Forestry is as Appendix D. This plan has been reduced slightly in the section of rural forestry on the assumption that with the scatter of Agricultural Officers and Supervisors throughout the Territory, some of the rural forestry work could be undertaken by agricultural staff if adequate technical advice is available. In other respects the plan is unchanged. The total allocation of £314,000 will be met in respect of five-twelfths from Colonial Development and Welfare Funds and seven-twelfths from territorial surplus funds. There is no loan allocation, but this matter should be considered further and, if possible, revised, because schemes of forest plantations should, if possible, be on loan funds.

108. The plan falls into three heads : A.—Research and Training ; B.—Timber Production for Commerce and Industry ; C.—Forestry in Rural Areas.

A.—Research.

Research in forestry needs careful planning because of the length of time over which investigations must be extended. Two specialist officers are required, one for timber utilisation and the other for silviculture. A scheme of work on timber utilisation was undertaken but only partially completed. (It is given in Appendix 9 of the forestry plan.) Research into the timber problems peculiar to mining is a first consideration, but problems of saw-milling, logging methods, transport, utilisation of minor forest produce and the future of secondary industries such as wood fibre and plastics are also outstanding features requiring attention. Some of this work will have to be done outside the Territory but the co-operation of a local specialist officer is essential. Silvicultural investigations are also needed. An example is the study of the silviculture of Rhodesian teak, which is an urgent problem. The best method of bringing the Copperbelt woodlands to their full productive capacity has not been investigated. An outline scheme of research is given in Appendices 5 and 8 of the forestry plan. This might be financed from the Colonial Development and Welfare Fund central allocation for research.

A.—Training.

109. A Forestry School for Africans is required. African Rangers must have an appreciable degree of technical training, particularly in surveying and mapping. A Forestry School for both Rangers and Guards is proposed, staffed by a Senior European Forester and four Ranger-teachers. It would work alternate six months' practical courses at Katombora (Barotse Forests) and Mwekera (Copperbelt). The Rangers' course would cover two years. A start would be made during the first five years of the plan and as soon as staff can be collected. The school would also be used for training Native Authority forestry staffs.

B.—Timber Production for Commerce and Industry.

110. *Rhodesian Teak.* The Rhodesian teak forests of Livingstone–Sesheke districts carry what is now perhaps the largest hardwood saw-milling unit south of the Equator. Production of sleeper-timber has been in progress for 30 years, and for the last ten years consumption has been at the rate of three million cubic feet in the round per annum, or 1,000 logs a day. The mills employ 136 Europeans and 4,000 Africans and, next to mining, are the most important industrial undertaking in the country. The present annual production of sawn timber has a sale value of roughly £250,000. The natural resistance of these forests to fire is broken by exploitation, and intensive methods of fire protection are then required—a formidable task in such hot, dry country. Extensive mapping and survey must be undertaken to determine the areas in which re-stocking and improvement works are needed as well as for preparation of fire-protection plans. Silviculture is still in the experimental stage and requires thorough investigation by professional staff. The forest resources of the mixed woodlands of Livingstone, which support a small plywood factory and a considerable African industry in curios and carving, require protection and replacement if they are to be preserved.

111. *Timber for Mining Industry.* Half a million cubic feet of $9'' \times 9'' \times 12'$ sawn baulks of native timber is required from the Copperbelt woodland every year for copper mining. The supply of indigenous timber to the copper mines has, after a three-year survey and a two-year period of research on mining timber, been reviewed and the memorandum is shown as Appendix 11 of the forestry plan. Some 500 square miles of indigenous woodland are required to keep the copper mines permanently supplied, and the policy is to use the land on the Copperbelt itself as far as possible in order to reduce transport charges. Twenty-one forest reserves have recently been gazetted in the Copperbelt for this purpose. There are two more areas north of Broken Hill, but still further areas of woodland must be reserved in the mining districts to bring the total up to the figure required. Positive action is urgently needed on an intensive scale to bring the ten-inch pole crops up to timber size as soon as possible, and a succession of future crops must be organised. Government must undertake this task itself. In addition, 250,000 cubic feet of pitch-pine and Oregon pine continue to be imported for mining, even in war-time. The demand seems to be permanent. Ten-year planting trials at Ndola, though only on a small scale, show that certain tropical pines give considerable promise. A note on plantations is given in Appendix 10 of the forestry plan; it is estimated that there might be some 10,000 acres of land on the Copperbelt which might be placed under conifers. It is proposed that 100 acres per year should be planted for the first five years, and after that 200 acres per year.

112. *Fuel and Poles for Townships and Secondary Industries.* This is one direction in which considerable progress has been made. Every major township except Chingola now has a forest reserve close to it. Fuel supplies are arranged under annual cutting plans and are very closely controlled. Future work lies in planning the cuttings ahead of immediate requirements, interior surveys, road-making and housing for African staff. The Forest Department must also increase facilities for cheap fuel supplies to the African urban population by departmental cutting and transport. These township forest reserves produce revenue, but their main function is to serve as a public utility.

113. *Carpentry and Building Timber.* Four forest reserves have been created along the railway line for the production of high-grade furniture timbers and to build up and improve the growing stock of Mofu, Mukwa, Mupapa, etc., in them. Each reserve now

needs planting of indigenous species, improvement fellings, and fire control. Plantations of pines are also needed in these reserves but only 1,000 acres of land appear to be suitable for this purpose. Additional pine plantations are necessary, and will probably have to be established further afield—possibly in the Bangweulu Chipyas along the Upper Luapula. These more distant plantations will have to be in units of 5,000 acres, which would be sufficient to maintain a small sawmill permanently. For the ten-year programme only small test plantations in selected areas are proposed. Trial plantings of Mukwa and Mungongo in the Livingstone district are also desired on a small scale. Production of high-class carpentry and building timbers for use along the railway belt is possible only through State Forest Reserves administered by a Central Forest Department, as funds invested are locked up for extremely long periods.

C.—Forestry in Rural Areas.

114. This deals with a different set of conditions, calls for a different method of approach, and requires a different method in execution. The work is intimately bound up with the agriculture of the people, so a close degree of co-operation with Agricultural and Administrative Officers is required. Much of the work will have to be carried out by the Native Authorities themselves and the policy is to build up a Native Authority Forestry Service from a basic African staff seconded from the Forestry Department. There are two aspects of forestry in rural areas: land conservation is one and the timber economy of villages the other. Preservation of forest cover of certain of the principal headwaters requires early attention. The headwaters of the Luangwa River (Mafinga Mountain) is an outstanding example. Petauke and Fort Jameson give many cases of hillsides that urgently require protection. Much forest land, such as the Bangweulu Chipyas and Barotseland, is in process of permanent deterioration from bush fires. The same protection by early burning is necessary for resting agricultural land to hasten the period of regeneration. In addition, the rising standard of living, the demand for better houses and furniture is increasing the demand for sawn timber in rural areas. Districts such as Mazabuka, Mongu, Lusaka, Abercorn and Fort Jameson are already short of timber. Communal forests where timber of saw-log dimensions will be preserved against shifting cultivation and which can be used to supply artisans with their timber requirements must be established. Kawambwa, Petauke and Southern Barotseland have forest belts which may be capable of supporting small African factories. Apart from forest blocks, individual trees of specially valuable species (Mukwa, African Mahogany, Saninga, etc.) must be protected wherever they grow and used only after they have attained mature dimensions. As a general principle, minor schemes and duties can be undertaken by the Native Authorities and by Agricultural or Administrative Officers, but all major tasks of this kind will have to be carried out by the Forestry Department itself.

Staff.

115. In 1945 the authorised staff was four Assistant Conservators of Forests and six Foresters, but the existing staff was two and three respectively. The plan proposes that the staff should increase by the tenth year as under:

	Approved 1945	*Increase in H.Q. and Research*	*Commercial Timber*	*Rural Forestry*	*Total Increase*
Conservator	—	1	—	—	1
Assistant Conservators ...	4	2	½	2½	5
Foresters	6	1	2	3	6
Clerks	—	1	2	—	3
African Forest Rangers ...	34	5	—	30	35
African Clerks	1	2	4	3	9
Forest Guards	58	—	32	70	102

The existing staff is employed almost exclusively in the commercial timber section.

Estimates of Expenditure and Financial Implications.

116. Appendices 2 to 4 of the 1945 forestry plan give estimates of expenditure. The minor modifications in this plan result in the following expenditure in excess of the 1946 estimates being required to carry out the programme over a ten-year period.

SUMMARY OF FINANCIAL IMPLICATIONS.—HEAD II.B, FORESTRY.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Colonial Development and Welfare Fund.												
Forestry School	—	—	—	—	3,600	3,600	—	13,400	13,400	—	17,000	17,000
Aerial Survey	—	—	—	8,000	—	8,000	—	—	—	8,000	—	8,000
Forestry Rural Areas	—	—	—	5,350	7,950	13,300	8,650	84,050	92,700	14,000	92,000	106,000
Total Colonial Development and Welfare Fund	—	—	—	13,350	11,550	24,900	8,650	97,450	106,100	22,000	109,000	131,000
Surplus Funds.												
Headquarters and Research	—	—	—	14,000	5,500	19,500	5,000	27,500	32,500	19,000	33,000	52,000
Timber for Commerce	6,270	2,898	9,168	20,000	20,000	40,000	16,000	75,000	91,000	36,000	95,000	131,000
Total Surplus Funds	6,270	2,898	9,168	34,000	25,500	59,500	21,000	102,500	123,500	55,000	128,000	183,000
TOTAL FORESTRY	6,270	2,898	9,168	47,350	37,050	84,400	29,650	199,950	229,600	77,000	237,000	314,000

SECTION VIII

DEVELOPMENT PLAN HEAD II.C

VETERINARY—(ALLOCATION £518,000)

117. The 1945 plan prepared by the Director of Veterinary Services is in Appendix F. It is to be carried out in full with minor modifications, *viz.*, one Biochemist, and one Pasture Research Officer deleted and the number of Research Assistants reduced from five to three. The total allocation of development funds is £518,000, of which £18,000 will be debited to loan funds to cover the cost of transferring headquarters to Lusaka (£15,000) and of other staff housing (£3,000). The balance of £500,000 will be debited in the proportion of five-twelfths to Colonial Development and Welfare Funds and seven-twelfths to Northern Rhodesia surplus funds. The veterinary plan aims at developing the livestock industry in order to secure a greater appreciation and use of livestock and animal products and to improve the nutrition and economy of the people.

The Present Position.

118. The livestock population of the Territory has been relatively static for many years and is inadequate to supply the Territory with its requirements of livestock products. In 1943 there were 93,000 sheep and goats, 38,000 pigs, a few hundred equines with poultry unknown. Cattle are the most important species to Northern Rhodesia; of the 645,000 head carried in Northern Rhodesia, 114,000 were owned by Europeans. The 530,000 head owned by Africans were distributed as follows:

Southern Province	270,000
Barotseland	140,000
Eastern Province	50,000
Central Province	44,000
Northern Province	25,000
Western Province	500

Previous to 1938 consumption of livestock products was on a much smaller scale, and the Territory was practically self-supporting in beef but had to import most of its requirements in mutton, pork and dairy produce. The expansion of the copper mines and military requirements during the war have affected consumption, and in 1943 (the peak consumption year) the total value of livestock and animal products imported amounted to nearly three-fifths of the total value of these products consumed. The main imports are meat (beef, mutton, bacon, ham and poultry), dairy products (milk, butter, cheese), and poultry products. The approximate value of total consumption of livestock products in 1943 was £532,307 plus, and of this approximately £294,154 was imported, but this latter figure includes breeding stock valued at £15,000. This consumption largely depends on the copper mines and any drastic reduction in copper production would have an immediate effect on the livestock industry.

Tsetse and Water.

119. It is generally stated that five-eighths of the Territory is infested with tsetse fly and this has been the biggest factor preventing expansion of the livestock industry on a territorial basis, but means of treating trypanosomiasis have steadily advanced in recent

years. The country is well watered in many localities, but the dry season is prolonged and the nutritional plane falls very low, but the natural conditions are adequate to allow increased production, particularly as improved water supplies, both surface and subterranean, will be made available as part of the general development plans.

120. The plan has three main objectives: (*a*) maintenance of a high standard of animal health, (*b*) application of methods calculated to stimulate and improve production of livestock and animal products not only by the pastoralist but also by the small agriculturist, (*c*) introduction of better methods of marketing and industrialisation of livestock and their products. These three are interdependent.

A.—Maintenance of Health.

121. Many diseases can be treated on a collective basis. An outstanding example is pleuro-pneumonia which has been practically eradicated by collective treatment. The recent successful measures against rinderpest in East Africa is a second illustration. This method applies particularly to parasitic infestation and to certain endemic and sporadic diseases such as anthrax, quarter evil, contagious abortion and certain poultry diseases which can be prevented by vaccination. The optimum season to concentrate on preventive measures against the diseases which can be collectively treated is May to July, when the stock are about to be moved from summer to winter grazing. Such a plan requires erection of cattle crushes at suitable selected points. All cattle would be collected at these points for preventive treatment, and facilities for treatment of small stock (sheep and goats) would also be provided if necessary. In the first instance, efforts would be concentrated in areas where the diseases mentioned are most common and where the most effective results would be obtained. This would demonstrate the benefits of the scheme and would allow time for training the African staff required. For the ten-year period these campaigns in collective treatment should be provided free. This would not only help to overcome any possible reluctance on the part of stockowners to the introduction of wholesale treatment but would also permit the elimination of the diseases in the shortest possible time.

122. Many diseases, particularly those conveyed by ticks, are at present less easy to prevent. The elimination of these diseases depends on the eradication of the tick—a problem requiring further research. Treatment of helminthiasis also requires further investigation. Trypanosomiasis will be treated as it occurs by African Veterinary Assistants who will constantly tour the areas for which they are made responsible. The possibility of eliminating game from areas where trypanosomiasis occurs in livestock must also be considered in consultation with the Game and Tsetse Department. In addition, the Veterinary Department must be constantly on the alert to prevent various epidemic diseases such as coast fever and rinderpest from entering the Territory.

B.—Increased Production.

123. The problem here is largely an African one and his assistance and full co-operation must be won if it is to be solved. The primary object for the next 20 years is to increase quantity. Improvement of quality will not be neglected and will follow better environment and measures for eradication of diseases. It would be a successful development to double the stock population in ten to twelve years, but even with 1,200,000 head of cattle further production would be necessary to supply the entire needs of the country in livestock products.

124. *National Herds.* It is proposed to establish national herds and flocks in all areas where this is possible. These would be used for demonstration and would make available for distribution a number of higher-class breeding-stock for the Africans of the locality. These herds would be owned by the Native Authority, run under the guidance and assistance of the Veterinary Department and, in the first instance, would consist entirely of indigenous stock. Boma herds under improved management would serve similar purposes but would demonstrate the utility aspect of stock rather than stud work.

125. *Veterinary Assistants' School.* This school at Mazabuka turned out its first 20 graduates in 1945. These African Veterinary Assistants will carry out the major portion of the field work required to teach the African population better methods in the use and management of livestock and the prevention of local diseases.

126. *Livestock Improvement Areas.* As the drive for increased production is organised, it is hoped that the Native Authorities will declare livestock improvement areas. In these areas rules should be made : (*a*) for compulsory castration at an early age of all male stock not required for breeding purposes, (*b*) provision of shelter and housing where required, (*c*) branding of approved bulls, (*d*) organised exchange of approved bulls, (*e*) prophylactic treatment to prevent prevalent diseases, (*f*) abolition of local harmful or inhumane practices of treating livestock, (*g*) culling of undesirable types of stock, (*h*) controlled regional burning of veld.

C.—Marketing.

127. The Cattle Marketing and Control Board, the Cold Storage Control Board, and the Butter Importation Board will be giving consideration to improvement in the methods of marketing and industrialisation of livestock. There are also schemes to be worked out under Head VI of the development plan (Agricultural Development, Marketing, Secondary Industries) which will control the ultimate form any marketing organisation will take. In general, the soundest method of sale of all produce is on a basis of weight and grade and the policy should be to try to introduce this system. Not only does this system allow for fair prices to be calculated, but Government is also better able to apply such control or stabilisation as may be necessary to the price structure from time to time. If weight and grade selling is to apply generally to African slaughter stock, markets must be organised where weighbridges and the necessary grading arrangements can be provided. An analysis of the facilities for markets required in the Native Reserves has been prepared. When the saleyards are established they will be conducted by official graders of the Cattle Marketing Board on weight-and-grade basis according to declared prices, which will vary according to season and circumstances. Advice would be given the African stockowners regarding the types which should be sold ; in this way the marketing system can assist in the general improvement of stock. European stockowners will continue meanwhile to dispose of slaughter stock direct to the buyer on a weight-and-grade basis according to prices declared from time to time by the Cattle Marketing Board.

Slaughtering Facilities.

128. The present method of decentralisation and multiplicity of slaughter poles and abattoirs has the disadvantages of inadequate hygiene, inability to grade or satisfactorily to inspect, wastage of by-products which cannot be collected, and lack of standardisation of the final product—whether it be meat or by-product. If slaughtering facilities could be centralised the carcase weight-and-grade system can be introduced and the price structure for controlling both the price of the original and of the retail products would be greatly simplified. This would mean distribution of meat instead of live cattle and would require a large increase in refrigeration space throughout the country. Assistance in building such facilities might be arranged through loans, or preferably small refrigeration plants could be built by the Cold Storage Control Board and rented to butchers. The Cold Storage Control Board should be consulted in this matter. The system cannot supply meat to rural communities away from the railway line—butcheries should be built, if necessary with funds provided by Government. They should be to an approved specification and operated on approved methods of slaughter, handling of meat and preparation of certain by-products. The butcheries would be rented and prices of meat controlled.

Dairy Industry.

129. This depends mainly, if not entirely, on the European producer. The majority of dairy farmers operate on the lowest economic form of dairy farming—cream production.

It is the general wish of these farmers to switch to production of whole milk, which shows bigger returns. The whole question of increased consumption of whole milk, the possible production, difficulties of transport and erection of a milk factory or factories, require full investigation by a Dairy Officer and can be considered further when his report is received.

Control Boards.

130. The responsibility for protecting the various interests of the livestock industry is vested in various boards. The Director of Veterinary Services suggests that an improvement in the organisation of the industry would result if all these boards were incorporated into a single Livestock Industry Control Board which would be concerned with general policy and the economics of the industry as a whole. He suggests that the chairman should be a Government servant and that the Board should have a membership of nine. It could appoint committees to deal with special aspects of the industry. The Board would have powers to acquire livestock for slaughter and other livestock produce and would act as a public utility concern. This suggestion must be considered further by Government with special reference to its relationship to the Northern Rhodesia Marketing and Distributing Corporation recommended by the Joint Development Adviser which is still under consideration.

Research.

131. In Northern Rhodesia research work should be applied to local problems rather than to purely scientific research, which requires larger institutions better equipped and more favourably situated than is possible here. The work of the Mazabuka Research Station should be continued and enlarged and the field services must be adequately assisted by a research organisation. The research station is in general suitably sited for studying livestock. The research work can conveniently be divided into two sections :

(i) Pathological research dealing with causation of disease and improved methods of eradication and prevention. This section will require laboratory services for diagnosis and investigation of disease and will have a stock of remedies for distribution. Long-range investigation will deal with such subjects as the eradication of ticks and tick-borne diseases.

(ii) Animal husbandry research will deal with nutrition, genetics, improved management, feeding and breeding policies. It will investigate fodder production, breeding lines and pasture research. The long dry season in Northern Rhodesia causes serious nutritional deficiency amongst livestock and methods of saving grass as fodder during its more nutritious stages is essential. Breeding work will be directed both towards application in native areas and to more advanced methods to be adopted by European stockowners. For the native areas various herds of indigenous breeds must be studied over a long period and the most suitable types for different conditions determined. To this end, four herds of local or tropically suited breeds will be established at the Research Station. For the European stockowner, investigation into type breeding of grade or exotic stock will be carried out. Further, in order to assist European stockowners, the acclimatisation of imported stock on the Research Station is already effective. An artificial insemination service will also be instituted.

Staff.

132. The full staff at the end of the ten-year period is estimated to be :

Headquarters Staff, Lusaka :

1 Director
1 Deputy Director
1 Clerk (Scale A)
1 Stenographer
2 African Clerks
2 Veterinary Orderlies

Research Staff, Mazabuka :

1 Principal Research Officer
1 Pathologist Bacteriologist
1 Parasitologist
2 Animal Husbandry Research Officers
2 Field Investigation Officers
1 Librarian-Museum Curator
1 Pharmacist Storekeeper
2 Senior Research Assistants
3 Research Assistants
2 Works Foremen
2 Clerks
9 African Technical Assistants
6 African Clerks
6 African Mechanics
20 African Artisans
4 African Supervisors
4 Veterinary Orderlies

Field Services :

12 Senior Veterinary Officers and Veterinary Officers
19 Senior Livestock Officers and Livestock Officers
2 Dairy and Poultry Officers
200 African Veterinary Assistants
33 Veterinary Orderlies
16 African Clerks

Financial Implications.

133. As stated in para. 117, the total allocation for veterinary work over and above the normal approved recurrent charges is £518,000, of which £500,000 will be paid from Colonial Development Fund and from territorial surplus funds, and £18,000 will be debited to loan funds. A summary of financial implications follows.

SUMMARY OF FINANCIAL IMPLICATIONS.—HEAD II.C, VETERINARY.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Loan.												
Transfer of Headquarters to Lusaka and Housing	—	—	—	18,000	—	18,000	—	—	—	18,000	—	18,000
Colonial Development and Welfare Fund.												
Livestock Diseases Campaign	3,000	3,400	6,400	8,000	12,000	20,000	20,000	50,000	70,000	28,000	62,000	90,000
Livestock Improvement...	6,100	—	6,100	15,000	5,000	20,000	15,000	45,000	60,000	30,000	50,000	80,000
African Veterinary Assistants' School... ...	—	3,429	3,429	—	11,400	11,400	—	17,600	17,600	—	29,000	29,000
Total Colonial Development and Welfare Fund	9,100	6,829	15,929	23,000	28,400	51,400	35,000	112,600	147,600	58,000	141,000	199,000
Expenditure, 1946	—	—	—	—	—	—	—	—	—	—	9,000	9,000
										58,000	150,000	208,000
Surplus Funds.												
Departmental Expansion	—	8,995	8,995	—	50,000	50,000	—	210,000	210,000	—	260,000	260,000
Staff Housing	12,000	—	12,000	24,000	—	24,000	8,000	—	8,000	32,000	—	32,000
Total Surplus Funds	12,000	8,995	20,995	24,000	50,000	74,000	8,000	210,000	218,000	32,000	260,000	292,000
Total Colonial Development and Welfare and Surplus Funds	21,100	15,824	36,924	47,000	78,400	125,400	43,000	322,600	365,600	90,000	410,000	500,000
TOTAL VETERINARY ...	21,100	15,824	36,924	65,000	78,400	143,400	43,000	322,600	365,600	108,000	410,000	518,000

SECTION IX

DEVELOPMENT PLAN HEAD II.D

GAME, TSETSE, FISH—(ALLOCATION £500,000)

134. The 1945 plan is Appendix F. Some amendment has been necessary to keep expenditure within the limits set. Adjustments are made to conform with the advice of two experts, Professor P. A. Buxton on tsetse matters and Mr. C. F. Hickling, Fisheries Adviser to the Secretary of State, who have visited the Territory since the plan was drafted. The Acting Director is not prepared to advise Government that anything less than the general effect of the plan submitted would be worthwhile and has been able to keep within the financial limit only by reducing the rate at which the department would be built up. The Game and Tsetse Control Department was constituted in war-time to tackle certain specific economic problems : protection of crops from wild animals, control of tsetse and rinderpest in game, conservation of fisheries. It has lived from hand to mouth and its responsibilities have steadily outgrown the machinery available to deal with them. On the existing basis it is not, in fact, a department at all, but is merely in the process of becoming one, and this process should be hastened with all possible speed. The common reference to it as a " Game " department tends to limit the general view of its activities to preserving game for sportsmen, whereas in reality it has a vitally important part to play in all rural development. To mention only two functions of major importance : the economy of the Bangweulu and Luapula regions is based on fish, and the proper conservation and use of this asset in both home and industry is a duty of the department. A second instance is the control of tsetse and its eradication in certain areas. Vast areas of the Territory are under tsetse fly, and when it is remembered that with our poor soils any transformation of agricultural method to permanent cultivation depends in large measure on composting with cattle manure the importance of measures against this pest cannot be exaggerated.

135. The plan is based on economic requirements. No special provision has been made for the more elaborate categories such as national parks, and even the care of game reserves must be worked into the picture as well as may be.

136. It is possible that a joint Northern Rhodesia–Nyasaland department may be formed in due course, but the present plan deals with local territorial requirements only. A joint department would have the advantage of establishing a co-ordinated policy and programme for the two territories, but it is unlikely that the cost to Northern Rhodesia would be any less than is now contemplated in the development plan.

137. The plan assumes that Northern Rhodesia will meet from annual revenue the expenditure of approved staff (both personal emoluments and other charges) together with the normal increments and inevitable increases in recurrent expenditure on that staff. It also presumes that housing and motor vehicles for approved staff will be provided from normal revenue and not from development funds.

Function of the Department.

138. The function of the department is the study and control of all wild fauna in its relation to human needs, fauna in the broad sense being an integral and important part of the ecological pattern of a country, and the maintenance of a proper balance being necessary and economically desirable. This basic function falls into three main and two subsidiary aspects :

(1) *Control and Preservation of Game.* Preservation complementary to control and both necessary. The implications are :

(*a*) the keeping of game, by selective hunting, out of areas in which it is unwanted (*i.e.*, settled areas) and in areas suited to it (*i.e.*, game reserves and controlled areas); the main theme being protection of cultivated lands without indiscriminate slaughter;

(*b*) the perpetuation of game, together with all fauna, in suitable areas with particular reference to the benefit and enjoyment of the public, the function of national parks;

(*c*) the enforcement of game laws with a view to balancing the claims of the public of all races to sport, meat and protection of property, against the desirability of perpetuating a stock of game generally and certain species particularly, always with reference to the needs of control and preservation indicated in (*a*) and (*b*) above.

(2) *Tsetse Control*, which implies:

(*a*) control of game as the normal carrier and food supply of the local species of tsetse fly (*cf.* under (1) (*a*) above);

(*b*) control of vegetation forming habitats of tsetse, with particular reference to the effects of cultivation by the native population;

(*c*) prevention of the spread of tsetse by traffic;

(*d*) co-ordination of the requirements and work of other departments; both those concerned with trypanosomiasis, and those concerned with the implications of (*a*), (*b*) and (*c*) above, *viz.*, Medical, Veterinary, Agriculture, Forestry, Water Development, and always the Provincial Administration.

(3) *Fauna Economics*, which include:

(*a*) fisheries, their protection and management and marketing of the product;

(*b*) rationalisation of game meat supplies, particularly for what are still "hunting communities" from the sociological point of view;

(*c*) marketing of skins, etc., *e.g.*, otter skins.

All the above are strictly economic aspects in that attention to them is essential not only to the well-being of population in rural areas but also positively to the rational use of the Territory's valuable fauna resources of meat, fish and associated products. To these essential aspects may be added:

(4) Publicity which caters for the sportsman and the game-loving public, keeping an eye to revenue and commerce;

(5) Science for its own sake, and additional to the measure of practical science implicit in the handling of the three main aspects cited above: the chief implication here being collaboration with research institutions.

139. The department deals with game, tsetse and fish, and its aim is to bring these under control to the degree required for the common welfare. The staff should be built up until it can cope with these requirements; when this is done no further expansion should be necessary. Like the Department of Agriculture, the activities of the Game and Tsetse Control Department are extensive and must cover the entire Territory. It should also be remembered that this department is, to a limited extent, revenue producing. This can be measured in cash received for licences or the sale of ivory, etc., a fair average to date in these categories being £15,000 per annum, but other activities such as tsetse control, fisheries conservation and crop protection, the latter with the supply of many tons of meat to Africans, while increasing the national income can have no accurate figure given for them.

Provincial Teams.

140. The work of the department readily falls in with the conception of provincial teams, and it is anticipated that it will be able to adapt itself to the development area conception without difficulty. The senior member of the department in each province should be a member of the provincial team. This will normally be an officer with technical qualifications in biology or related subjects.

10DP

Research.

141. Little is known of the Territory's terrestrial or aquatic fauna. Research is required on three main lines:

(i) *Zoology*: in which "field research" would be undertaken in the first place by the Biologists in collaboration with scientific institutions and any other officers interested. Openings for useful "pure" research would probably result.

(ii) *Tsetse*: in which "field research" would be undertaken by the Entomologist, often in conjunction with the Biologists, collaborating in this and on matters of "pure" research with established tsetse and trypanosomiasis research institutions (whether in East or Central Africa), and with other departmental officers concerned (Health, Veterinary, Agriculture).

(iii) *Fisheries*: in which "field research" would be undertaken by the Fisheries Officers in collaboration with any fisheries research institutions established. It may be mentioned that the Fisheries Adviser to the Secretary of State envisages a Fisheries Research Station sited in the Fort Rosebery area, in liaison with the East African Regional Research Station at Jinja; this project will shortly be brought forward for consideration.

Game.

142. Routine duties are directed towards enforcement of game laws, preservation of game in game reserves and protection of crops in settled areas. The annual cost of maintenance of rinderpest control measures undertaken by the department is now about £4,500, but may shortly be reduced to £2,000, of which Northern Rhodesia's share is two-tenths. The future of rinderpest control is uncertain, depending on developments in East Africa. There will be one, and if found necessary two, buffalo control units on lines already established, and one vermin control unit to pilot vermin destruction campaigns particularly in farming areas. The expenditure allowed for handling buffalo control products should be covered by the sale value.

Fish.

143. In addition to routine fisheries conservation, the department will have an important part to play in collaboration with the Registrar of Co-operative Societies in launching co-operative schemes for the fishing industry. On the "fish-farming" side, a pilot fish-farm on a potentially commercial scale will be established to show the way in this branch of the industry, which there is every reason to believe will become of great importance. The practical work will be determined by the Fisheries Officers when they are appointed. It is hoped to build an average of four fish dams each year in areas not served by existing fisheries. Experiments to date indicate that at least one fish—the Kafue Bream—will give a good yield in any maintained dam, and the Secretary of State's Fisheries Adviser has strongly recommended that these investigations should be carried on as a matter of priority. The adaptation of other-purpose dams to serve fish-raising purposes could absorb some of the funds provided. The cash value of the annual fish turn-over to the commercial fishing industry was calculated in 1942 at £200,000, and is now considerably in excess of this figure, but fish is also an incalculable asset in providing protein and calcium to a population with a diet generally lacking in these elements.

Tsetse.

144. Only one Entomologist is provided for; every member of the department must play his part under his guidance and much routine work could be undertaken by trained African staff. Two tsetse control units will undertake work of an intensive or specialised nature beyond the capacity of the ordinary Ranger staff under the direct supervision of the Entomologist. Three major campaigns against tsetse fly—one in the Eastern Province and one in the Namwala–Mumbwa area financed from Colonial Development and Welfare Funds and one in the Feira area—have already been started and show promise.

Staff.

145. The appointments of Assistant Director and European clerk sought in the original development plan were approved during the current year. Provision for the Entomologist and one Fisheries Officer (originally referred to as "Assistant Fish Warden") also exists, though these posts are vacant at present. Three Biologists (originally referred to as "Game Wardens") are required, and two additional Fisheries Officers, one of whom would specialise in fish farming, preferably at a development centre if the location could be made to serve. The Biologists and Fisheries Officers would be in administrative charge of their respective areas, on the same lines as Agricultural Officers in theirs. The lay staff is composed of Rangers, whether "game" or "fish", with a possible promotion to "Chief Game Ranger" for the senior lay officer. The following table gives a comparison of present and proposed staff (*vide* Schedule II in the original departmental plan, which has been amended as indicated above):

		Establishment		
		Additions	*Total after 10 Years*	
	1945	*under plan*	*Normal*	*Contingent*
HEADQUARTERS AND PROVINCES:				
Administrative:				
Director	1	—	1	—
Assistant Director	—	1	1	—
Clerks	1(*a*)	1	2	—
Technical and Administrative:				
Biologists	—	3	3	—
Fisheries Officers	1(*b*)	1	2	—
Technical and Research (c):				
Entomologist	1	—	1	—
Fisheries Officer (Fish Farming)	—	1	1	—
Lay Staff:				
Chief Game Ranger	1(*d*)	—	1	—
Game Rangers: General	3	10	13	—
Special Units	4	(1)	4(*e*)	1
Fish Rangers	1(*f*)	3	4	—
(Game Rangers: Rinderpest Control)	2(*g*)	—	—	2
DEVELOPMENT CENTRES:				
Fisheries Officer	—	1	1	—
Game Ranger: General	—	1	1	—
Fish Rangers	—	2	2	—
Total European Staff	15	25	37	3

NOTES: (*a*) Temporary part-time clerk.
(*b*) Assistant Fish Warden, not yet appointed.
(*c*) Consideration will be given to requesting an allocation for "pure" fisheries research (*see* para. 141 (iii) above) from the Colonial Development and Welfare Research Fund.
(*d*) Assistant Game Warden.
(*e*) One buffalo, one vermin, two tsetse control, with contingent provision for a second buffalo unit if necessary.
(*f*) Temporary staff.
(*g*) Provision for rinderpest control staff is included in a block vote shared between Northern Rhodesia, Southern Rhodesia and the Union of South Africa in the proportions 2 : 3 : 5.

Summary of Financial Implications.

146. The development allocation of £500,000 will meet expenditure as indicated in the following tables.

TABLE 1

ESTIMATES OF ANNUAL EXPENDITURE FOR TEN YEARS OF £500,000 ALLOCATION FROM DEVELOPMENT FUNDS

	C.D.W.F. £	*Surplus Funds* £	*Total* £	
Previous years	14,400	—	14,400	*N.B.*1
1947	38,620	26,000	64,620	*N.B.*2
1948	18,320	30,000	48,320	
1949	18,000	30,660	48,660	
Three years' total ...	89,340	86,660	176,000	
1950	17,000	31,000	48,000	
1951	17,000	31,000	48,000	
1952	17,000	29,000	46,000	
1953	17,000	27,000	44,000	
1954	17,000	28,000	45,000	
1955	17,000	29,000	46,000	
1956	17,000	30,000	47,000	
Seven years' total ...	119,000	205,000	324,000	
Ten years' total	208,340	291,660	500,000	

N.B. 1. Tsetse Control actual expenditure, 1945–46, financed from Colonial Development and Welfare Fund grants.

N.B. 2. Includes Colonial Development and Welfare Fund grants already approved under schemes in *N.B.* 1.

TABLE 2

APPORTIONMENT BETWEEN CAPITAL AND RECURRENT EXPENDITURE

	Capital £	*Recurrent* £	*Total* £
Previous years	—	14,400	14,400
1947	10,120	54,500	64,620
1948	14,880	33,440	48,320
1949	15,000	33,660	48,660
Three years' total ...	40,000	136,000	176,000
Subsequent seven years	30,000	294,000	324,000
Ten years' total ...	70,000	430,000	500,000

SECTION X

DEVELOPMENT PLAN HEAD III

AFRICAN RURAL DEVELOPMENT—(ALLOCATION £1,500,000)

147. Sections IV to IX give in outline the plans prepared by the social and economic services departments. In XI and following sections there is provision for improved communications, water development, African housing in urban areas, and a large programme of public works. These are schemes, each for the expansion of one department, and collectively they show what Government is prepared to do during the ten-year period. This section is concerned with African development in rural areas and in this respect two further aspects of development must be considered :

(i) The co-ordination of departmental activities in the field (paras. 148 to 150) ;

(ii) The part the Africans themselves must play in their own progress (paras. 158 to 161).

Co-ordination of Departmental Activities.

148. The co-ordination of departmental activities in all districts is the function of the Provincial Administration. Each District Commissioner administers his district under his Provincial Commissioner and this principle must be maintained. But during the course of the next ten years every District Officer will find that co-ordinating the work of other departments will require a growing proportion of his time because the technical departments will be expanding steadily.

149. This work of co-ordination and of maintaining a proper balance between different departments is only part (and the easier part) of the task District Officers must carry out in addition to their administrative duties. The District Officer will have to explain to the Africans what the technical officers are trying to do and why they want to do it. It is self-evident that the degree to which the Africans willingly assist in the programmes of the technical departments will determine the rate of progress. It will also affect the cost of supervision ; a man who does something because he wants to do it takes less supervision than one who is unwilling. But of greater importance is the fact that if an attitude of mutual interest and assistance can be established at the outset, the achievement of the first step on this basis makes the second one easier to take. It will require all the administrative talent we possess to establish this state of affairs. The present staffing of District Officers is based on the administrative requirements of each district. Because Government departments plan to have greatly increased staff in the rural areas and because the normal administration of the districts must continue, the existing staff of District Officers may prove inadequate to the tasks mentioned in the paragraph above ; it certainly cannot cope with more.

150. Intensive development cannot take place simultaneously throughout all districts in the Territory. We lack both staff and funds and have yet to discover by trial and error the lines of development which are practicable and those which are not. But if the territorial development plan is to be worthy of its name, general progress on a territorial scale must be achieved during the ten-year period. To meet these points, the plan for rural development provides for concentrated work in selected localities and extension work throughout the country. It will be based on the principles of close co-ordination of Government activities and close co-operation with the African population through its established leaders—the Native Authorities. This rural development work will take one of two forms : (i) development centres, or (ii) development areas and districts.

Development Centres (Allocation £650,000)

151. The development centre plan is based on the development proposals contained in paras. 8 to 43 of the memorandum on "Post-War Planning in Northern Rhodesia" by Mr. G. F. Clay, the Joint Development Adviser (*see* Appendix A). It will be seen from paras. 3 and 4 of the "Foreword" that Government has accepted these proposals and supported the application for financial assistance to establish development centres and their complementary necessities—provincial teams and field teams of subordinate European and African staff. The plans for departmental expansion have been co-ordinated with this plan of basic development. The full programme of development centres is in Appendix G—"Development of Social Services for Africans—Development Centres." It will be noted that five centres were originally proposed but funds are lacking to carry out the full plan. In deference to the views of the Unofficial Members of Legislative Council expressed during the April Session, provision is made for one centre only during the first three-year period for which funds are required. The estimates for the fifth year, however, contain financial provision for building a second centre and the recurrent charges appear in the estimates of the sixth to tenth years.

152. The development centre has "basic development" as its objective. This is defined in para. 10 of the development centre memorandum as an attempt to give the Africans of Northern Rhodesia reasonable health, education and agricultural (including veterinary) facilities, all within a reasonable distance of their villages. The view of the sub-committee of the Native Development Board was that the services contemplated were an essential minimum, could in no way be regarded as extravagant and must be provided. It was realised that the field work in connection with these services must be undertaken by the Africans themselves who, however, must be trained for that purpose. To give practical training to the large number of Africans required presents a very difficult problem; it was to achieve this that five centres were to be established. Under the modified scheme the one centre will carry out its full programme within its own area. One of the main considerations which actuated the sub-committee in coming to its decision was the necessity for common or team-training so that the Africans trained at the centre would not only have an appreciation of the work of their fellow trainees but would have learned to work in teams before they are sent out to start their field work. The centre would send out teams of trained African staff, each team consisting of a Teacher, a Dispensary Assistant, a Sanitary Assistant, and a Rural Assistant. These teams would have a sound practical knowledge of simple preventive and curative medicine, of village welfare and sound development of the basic rural economy including correct land utilisation, animal management and intelligent reporting of outbreaks of disease. The Teacher under these proposals should, as leader of village life, have the necessary background.

Staffing of Development Centres.

153. It is proposed that each centre should be fully staffed with high-grade European staff consisting of one Senior District Officer, two Medical Officers, one Agricultural Officer, one Veterinary Officer, one Education Officer with subordinate European staff including one Medical Inspector or Instructor (ex-R.A.M.C.), one Health Inspector, three Nursing Sisters, one Health Visitor, one Agricultural Supervisor, and one Livestock Inspector. It is hoped that there will be two Mission representatives on the staff of the teacher-training school at the centre.

Work of Development Centres.

154. The main function of the centre will be to train subordinate European and African staff for development work in the districts to which they will be posted, but in addition the high-grade European staff of the centre will be engaged in investigation and experimentation and also, with the aid of the Mission representatives, in planning basic development for the zone surrounding the centre in conjunction with the provincial team of the province concerned. This zone will be the adjacent Native Authority Areas. One of the main obstacles to be overcome in regard to development is the apathy of the African.

It will be the work of the high-grade European staff at the development centre and, in particular, of the District Officer to work out and try out methods of approach to overcome this obstacle. The first step will be to ensure that the Native Authorities of the zone surrounding the centre appreciate what the Government is attempting to do, and having appreciated that to convey it to, and see that it is put into practice by, the Africans they govern. The Native Authorities attached to the centre will thus become practising areas for the teams being trained at the centre and demonstration areas for all the Africans the development centre will serve. There is, however, no intention of divorcing these Native Authority areas from the District Commissioner of the district in which the development centre is situated. The District Officer at the development centre will work in closest co-operation with the District Commissioner.

Experimentation and Investigation in Development Centres.

155. As the Joint Development Adviser has pointed out, it would be difficult and indeed unwise to attempt to define rigidly the scope of subjects to be considered, but he has suggested that they should include :

Basic agricultural systems,
Breeding, feeding and management of livestock,
Rural housing,
Rural sanitation,
African diets and any measures for the incorporation in the present economy which would lead to improvement,
The relation between diet and disease with particular reference to deficiency diseases,
Practical measures for child welfare and maternity work,
Incorporation into the senior classes of the school system of practical civics based on the lines of development being evolved at the centre,
Mass education,
Development of a system of local government in step with the social and economic development being planned,
Organisation and development of a local marketing system for the exchange of commodities among the rural population.

Expenditure.

156. The cost of establishing a development centre is £91,000 including provision for capital works such as schools, dispensaries, soil conservation works and dams in Native Authority areas adjacent to the centre. The recurrent cost is £34,000 per annum. Detailed estimates appear at the end of this section.

DEVELOPMENT AREAS AND DEVELOPMENT DISTRICTS—(ALLOCATION £850,000)

157. The development district and development area plan assumes that under wise leadership the African population can and will take a major part both in deciding on the immediate objectives of rural development and also in achieving them. There must be a wise and understanding direction of rural development, but the emphasis is on helping the African to help himself, and within the general framework of development he should be allowed the widest scope. The medium through which his ideas will be expressed will be in every case the Native Authorities.

The Africans' Part in a Development Programme.

158. Paras. 148 to 150 refer to the services to be provided by Government ; the tools to assist in development. These services are planned by heads of departments, provided by their skilled staff and co-ordinated by the Provincial Administration. Without them the Africans cannot progress, but it is important to remember that it is the use made of these services which is the true measure of progress and not the services themselves. If our planning has stopped at this point it would have been ill-balanced and eventually unsuccessful. The provision of social and economic services is merely a question of adequate

funds and staff. Even if by administrative skill the African population is persuaded to make full use of services provided, development would still be one-sided. [We should have fixed more firmly in the African's mind the idea already far too prevalent : that progress comes from Government alone and not from his own efforts. This is a fatal error. It must be established at the beginning of the programme that the African must progress on his own feet and will not be carried by Government. When any tribe or social unit is prepared to make strenuous efforts to improve itself the entire Government organisation should be available to help it, but nothing should be done for the people which they are capable of doing themselves.]

159. It follows that if the Africans are to be required to play their part in development, there must be a flow of ideas upward from the population as a whole. These should be expressed through the Native Authorities. The suggestions will be for specified schemes and their nature will depend on the stage each African society has reached. The services to be provided by Government through technical departments should be controlled to some extent, and insofar as is practicable, by the degree to which any social unit is prepared to make use of them. This principle is sound from both the economic and sociological viewpoints.

160. This upward flow of ideas from the African population will cover a much wider field than the economic or social service departments. It will include the whole process of evolution of African society and its government to meet changing conditions. In addition, many of the individual schemes of development which will be suggested lie outside the scope of existing Government departments. A few examples are improved African housing in rural areas, village organisation and layout, co-operatives, community centres, organisation of marketing of economic produce, rural industries of every kind, arts and crafts, hobbies and leisure-time activities, community enterprises such as grinding-mills or use of water-power, and the like. Government must have an organisation which can (*a*) discover where demand for schemes of this kind is strong or stimulate the demand where it is weak, and (*b*) assist each community to achieve its stated objectives.

161. There can be little point in planning rural African development unless it is assumed at the outset that they are capable of it. If they are capable, then they can play their full part in it. It must be clearly established that African development is the Africans' business. Government should demonstrate that through the health, economic and education services it can help to make the Africans healthy, wealthy and wise ; that it is prepared to give the best administrative talent it possesses and such financial assistance as is available to schemes of progress suggested by the Native Authorities, but it should do no more. Leaders of African society and thought should be told on every occasion that the success or failure of African development will depend wholly on the Africans themselves. This principle is easy to accept in theory but European officers in the field will be impatient of it in practice. It means that an African society must be allowed in general to select its own time for the application of new ideas and this will not always be acceptable to European officers who may want the idea accepted at once. If the staff working with the Native Authorities is skilled the process can be greatly speeded up. Occasionally the urgent need to conserve natural assets in land or to prevent famine may require drastic action by Government contrary to African wishes, but the general principle remains sound for all normal circumstances.

Organisation of Development Districts and Areas.

162. Balanced development consists of an upward flow of ideas from the rural areas through the Native Authorities to Government and a complementary flow of services from Government to village Africans to assist them in their advancement. The critical point at which success or failure is likely to be determined is the point of contact between the European Government and the developing African. It has been the function of the Provincial Administration to interpret Government actions to Africans and it must continue to be so. But because the development plan, if successful, will change the way of life of every African in this Territory it is essential that the degree of mutual understanding estab-

lished should be infinitely greater in development than is normally necessary for successful administration. For this reason carefully selected District Officers should be appointed Development Officers. These officers should be seconded as full-time Development Officers to enable them to devote their services without interruption to development work.

Development Areas.

163. The Territory should be divided into ten "development areas." These areas have been selected on the basis of tribal affinity and on the ecological survey, but some adjustment may be necessary in the light of experience. They are:

(i) *Bemba Plateau*, consisting of the Abercorn, Kasama, Mporokoso, Isoka, Chinsali, and North Mpika districts.
(ii) *Luapula and Bangweulu*: Luwingu, Fort Rosebery and Kawambwa districts.
(iii) *Eastern Province*: Petauke, Fort Jameson, Lundazi.
(iv) *Serenje Area*: South Mpika, Serenje, Mkushi.
(v) *Ndola Area*: Ndola, Solwezi, Kasempa.
(vi) *North-West Area*: Balovale and Mwinilunga.
(vii) *Southern Area*: Mazabuka, Lusaka, Guimbe, Livingstone.
(viii) *Central Area*: Broken Hill, Namwala, Mumbwa.
(ix) *North Barotse Area*.
(x) *South Barotse Area*.

The proposed boundaries of the development areas do not coincide in every case with existing district or provincial boundaries, and investigation into each case will determine whether the district or the area boundaries should be adjusted. The technical sub-committee of the Native Development Board in recommending the areas pointed out that the Territory has, in the ecological survey reports, an instrument for development planning of the highest value, and that in view of the large sums of money to be spent in development it is advisable that regional planning should be based wherever practicable on the ten natural ecological divisions of the Territory here named "development areas."

Development Districts.

164. A suitable locality for intensive development should be selected in each development area; in most cases this will be one administrative district. During the first few years of the plan, development work will be largely concentrated within this district, but from it will go experienced European officers with trained African staff to apply successful projects which have succeeded in the development district. This organisation has not been proved in the field. Unlike the technical departments, which have been long established and know the problems to be faced, this is a new venture and must learn by experience. However carefully the scheme may have been prepared and considered, it is inevitable that modifications will be required as the work proceeds. Each development centre established (*see* para. 152) will serve at least one development area. The remaining areas will be developed through development districts.

Co-ordination of Development Work.

165. The duties of the Development Authority have been given in para. 27 and it will work on a territorial basis. The provincial teams mentioned in para. 26 occupy the key position and the success or failure of rural development will depend to a very great extent on the enthusiasm of the team and the Provincial Commissioner. Each provincial team will initiate, control and direct development in each development area within the province. Each province will contain at least one of the ten development areas listed in para. 163; some provinces will have two areas, and the new Ndola province three. Each development area will be run, for development purposes, as a self-contained unit under the appropriate provincial team.

Allocation between Development Centres and Development Districts.

166. It has been suggested that the two development centres which appear in the estimates of expenditure should serve the Eastern Province (one area) and the Barotse

Province (two areas). This leaves seven development areas to cover the rest of the Territory. Provincial teams which control these seven areas will be asked to select one administrative district in each area which will be the development district of that area.

Staff of Development Areas.

167. Each development district will be staffed by at least four, but if possible six, District Officers seconded as Development Officers. The senior Development Officer will be District Commissioner of the development district, and one of the junior Development Officers will carry out the duties of District Officer. Assuming that the normal administrative staff for each district is two District Officers, starting one development district means an increase of two and possibly four District Officers to the Provincial Administration staff. This means that for the full programme of seven development districts some 14 to 28 additional District Officers are required. In addition, clerical staff should be provided to relieve officers of routine station work—especially accounting. This should be done in every district in the Territory and not only in development districts. District Officers are costly and their time should not be wasted (as it is being wasted now) on work which lower-paid staff can do equally well.

Illustration of Working of One Development Area.

168. If the provincial team decides that in its development area which consists, say, of three districts, the centre one is to be the development district, the general organisation will then be that the two outer districts will have the normal staff of District Officer, District Commissioner and (if para. 167 is accepted) a clerk to do the accounting and to supervise routine station work. The central development district will have four, and if necessary six, District Officers, but these will be picked men seconded as Development Officers. The three districts will be administered in the usual way under the Provincial Commissioner. The District Officers in the two outer districts of the development area will be required to increase the amount of district travelling done, map their districts, get the Native Authorities functioning to the maximum pitch possible with progressives on their councils, establish the parish system, start minor schemes of development to rouse the interest of the people, and in general prepare the way for the more intensive work to follow. The Development Officers will do the same in their district but will establish the closest possible contact with African public opinion in the development district and start on an intensive development drive.

Technical Staff.

169. As technical officers become available they will be posted whenever possible to one development area and will have their headquarters in the development district; that is, they will be stationed with the Development Officers. Together they will try to develop the district at a rate considerably in advance of the plans for the Territory as a whole.

Application of District Schemes to Development Area.

170. As the district develops, it will become a demonstration district for the area as a whole. Many projects will have been tried out and some should have proved successful. With the approval of the provincial team, the officers in the development district who have successfully established a project and who have found out by practical experience how it should be applied, can move into the outer districts of the development area and there help the District Commissioners to establish it in their districts. By this means development should take place over the Territory as a whole, but for the first few years work will naturally be concentrated largely in the development districts. If the plan is to work successfully it is important that each development area should be a natural unit with similar soil types, climate, and agricultural method. Also, if Development and Technical Officers are to move freely throughout their development areas each should have, wherever possible, a common language. It is for these reasons that the technical sub-committee of the Native Development Board strongly recommends that district boundaries should be adjusted whenever possible to fit administration into the pattern required for development.

Development Officers.

171. It is essential that District Officers seconded as Development Officers should be the best we have. Special qualities are required and not all District Officers have them. Those who do should have their talents used to the full and should not be transferred from one development district to another unless it is unavoidable. This continuity is essential if the officers are to acquire the detailed local knowledge necessary and if their enthusiasm is to be maintained. The technique of assisting an African community to progress, of pushing it forward while at the same time permitting it to think that it is taking the initiative itself, is highly skilled and requires study and experience. The technique of development differs fundamentally from that of administration and the two must be kept separate. Specialists in development are required.

Principles of Development.

172. The memorandum, "African Development Planning" (Appendix H), gives an outline of the principles of development and should be accepted as indicating the general lines of procedure for Development Officers.

Special Duties of Development Officers.

173. Development Officers will be primarily responsible for all development work which lies outside the scope of existing departments (*see* para. 160). They will require expert advice from technical officers and occasionally from experts outside the Territory. In view of the magnitude of the task, the staff asked for is very small, and can be kept at this figure only if the assumption is correct that the Africans must and will take a large share in the work. The intention is to take them into full partnership in all work in rural areas.

174. *The general organisation* will thus be :

Development Authority (1)

Provincial Teams (6)
(preparing plans and supervising all activities in each Province).

Development Centres (2)
(training staff and demonstrating possibilities of intensive development in a limited area of about 15 miles radius).

Development Areas (7)
(developed by team of high-grade European staff assisted by subordinate European and African staff intensively in one district, extensively in rest of area).

Development Areas (3)
(developed by teams of subordinate European staff and teams of Africans staff trained at the centre; each district in the area on the same scale).

Rural Development—General.

175. The Territory consists of a highly industrialised mining area, a railway belt now prosperous, and the rest of the country which, with few exceptions, gives a general impression of being practically stagnant. It is this state of affairs that the plan for rural development will try to correct and it may prove a formidable task. There are, however, many hopeful signs indicating that many African communities in rural areas have reached the stage of welcoming a plan of this kind. Twenty years ago this plan had little chance of succeeding because there were few individuals dissatisfied with living conditions in the villages and fewer still so dissatisfied that they were prepared to do something about it. The position is very different to-day, and when Development Officers start work they may well find that they have more work on their hands than they can manage.

176. ral development work is important to every person in this Territory, black or white, and it should not be difficult to win the active support of all Europeans interested in public affairs. When work has started, Europeans of this type—especially members of Legislative Council—will be welcomed if they care to study the programme in the field and to offer their advice or assistance. It is of the greatest importance that the rural development plan should have the active support of Christian missions. Not only should they be fully informed of the plans but they should be invited to play their full part in them as missionaries. The work of missions is an essential part of development itself. The memorandum Appendix H deals with this matter in greater detail.

Estimates of Expenditure—Development Centres and Development Areas.

177. The original plan for development areas was calculated to cost £1,400,000. The plan for five development centres was estimated to cost £2,195,000. It proved necessary to reduce these estimates considerably, and the estimates attached show :

Seven development areas	£850,000
Two development centres	£650,000
Total ...	£1,500,000 over ten years.

Estimates on this basis have been prepared. They show that of the total £1,500,000 over ten years, a sum of £450,000 is required for the first three years. It is probable that difficulties in obtaining building staff and materials will prevent this objective being achieved, but because the total programme has been severely curtailed through lack of funds it should not be cut down still further by anticipating shortages of materials. The funds asked for are sufficient to permit both the development centre and the development area schemes to prove themselves, and to show whether or not they give value for money spent. There is little doubt that both schemes will require some modification in the light of experience. If they are successful, funds may be voted after the three-year period for expansion of the work. If they fail, we shall know the reasons from practical experience and should be able to prepare better plans.

178. The following points should be kept in mind in reading the estimates which follow :

(i) The Territory falls into ten natural sections for development purposes. These are called " development areas " and each of these areas contains an average of three districts.

(ii) The estimates assume that three of these development areas will be served by two development centres. Only one such centre appears in the first three years of the plan.

(iii) The remaining seven development areas will be served by " development districts," one such district for each area.

(iv) The estimates are divided into sections " A " and " B " in each table. " A " represents development centre expenditure, " B " is development district expenditure.

(v) *Section " A "—development centres*—covers all capital cost of buildings, etc., and recurrent charges for running each centre and includes administrative, health, education, agriculture, veterinary and other services at the centre and in the Native Authority areas immediately surrounding it. Estimates do not include the cost of field work in the development area, that is, the cost of secondary development teams of European staff and the teams of African staff trained at the centre who will work in the district in which the centre is built and in the other districts which collectively constitute the development area. These are provided for in departmental plans.

(vi) *Section " B "—development districts.* Estimates cover the cost of establishing Development Officers in each development district and recurrent costs of their work both within the development district and the development area as a whole. It includes financial provision for schemes which will be suggested

by the Native Authorities themselves. The estimates do not cover capital and recurrent costs of technical officers who will join the team ; these appear in the individual departmental plans.

179. Tables are attached :

Table 1

COST PER UNIT ON WHICH RURAL DEVELOPMENT ESTIMATES ARE BASED

Section "A"—Development Centres

A.1—Capital Cost per Development Centre.

	£
(i) General layout, clearing 1,500 acres at £2	3,000
Clearing 300 acres at £5	1,500
(ii) European quarters (inclusive cost)—20 houses	20,000
(iii) African staff quarters—40 × £60	2,400
(iv) Labour lines—200 × £30	6,000
(v) Pupils' quarters—160 married × £50	8,000
Pupils' quarters—10 dormitories for 10 pupils, each £100	1,000
(vi) Farm buildings, stock, implements	5,000
(vii) Lecture rooms, offices	5,000
(viii) Water and light	3,000
(ix) Hospital	20,000
(x) Community centre	1,000
(xi) Chapels	1,000
(xii) Transport	2,000
(xiii) Contingencies	100
	£79,000
(xiv) Capital works, extension area	1,000
	£80,000
(xv) From second to tenth years there is an annual capital expenditure under (xiv) of £1,000, and in the seventh year renewals under (xii) of £2,000. The total capital for ten years is thus	£91,000

A.2—Recurrent Expenditure per Development Centre.

Note.—Estimates of personal emoluments represent the average over ten years based on existing salary scales.

	£
(i) *Personal Emoluments* :	
1 District Officer	920
2 Medical Officers	1,600
Agricultural Officer	600
Veterinary Officer	720
Education Officer	600
Medical Inspector	550
Health Inspector	500
Senior Nursing Sister	500
2 Nursing Sisters	750
Health Visitor	400
Agricultural Supervisor	500
Livestock Officer	500
2 Mission Educationists	1,200
Clerk	500
Mechanic-Foreman	500
Fish Ranger or Forester	500
European staff total	£10,840

			£
40 African training staff at £100			4,000
Hospital ungraded staff			600
Total personal emoluments			£15,440
(ii) *Other Charges* :			
Labour—200 × £10 per annum	£2,000		
Maintenance—400 pupils × £20	8,000		
Travelling	1,500		
Other charges—general	5,060		
Maintenance extension area	2,000		
Total other charges		£18,560	
Total annual recurrent per development centre ...			£34,000

Section "B"—Development Areas

B.1—Capital Expenditure per Development Area (modified scale).		£
(i) Clearing, layout, water, light		1,000
(ii) European housing—3 × £2,000		6,000
(iii) African staff housing—25 × £100		2,500
(iv) Labourers' houses—50 × £30		1,500
(v) Offices and stores		1,000
(vi) Transport		1,750
		£13,750
(vii) In sixth year renewal of (vi)		1,750
Total capital per area		£15,500

B.2—Recurrent Expenditure per Development Area (modified scale).		
(i) *Personal Emoluments* :		
2 Development Officers at £720	£1,440	
25 African staff at £60	1,500	
		£2,940
(*Note.*—Two Development Officers and one Clerk are to be paid from ordinary recurrent expenditure.)		
(ii) *Other Charges* :		
Labour—50 at £10 per annum	500	
Upkeep, travelling, allowances	1,500	
Development projects	5,060	
		£7,060
Total annual recurrent per unit		£10,000

	£
B.3—Unallocated Stores.	
Fund for Unallocated Stores	2,460
B.4*a*. Training School—Capital.	
Two training schools for African development assistants at £1,000 per school inclusive	2,000

B.4*b*. Training School—Annual Recurrent per Unit.		
3 African staff at £100	£300	
Maintenance of pupils—20 × £20	400	
Other charges	300	
		£1,000

B.5—Headquarters Staff—Recurrent Charges (excluding staff appearing in annual territorial estimates).

(i) *Personal Emoluments*:		
Accountant	£720	
(ii) *Other Charges*:		
Travelling allowances	£100	
Travelling—leave	80	
Transport—general	600	
Expert investigations	1,000	
		£1,780
		£2,500

B.6—Preliminary Development Work in Areas not served by Development Districts.

First year—4 areas at £4,000	£16,000
Second year—1 area at £4,000	4,000
	£20,000

B.7—Current Colonial Development and Welfare Schemes.

	Year	*Capital*	*Recurrent*
Katembwe Coloured School ...	1946	£460	—
Social Welfare	1946	—	1,530
African Town Supervisors ...	1946	—	1,550
African Town Supervisors ...	1947	—	1,500
		£460	£4,580
		Total	£5,040

TABLE 2.

ESTIMATES OF ANNUAL EXPENDITURE OVER TEN YEARS.

(Reference in brackets is to sections in Table 1.)

	Capital £	*Recurrent* £	*Total* £
***First Year*:**			
Building part of development centre (A.1)	22,000	—	22,000
Three development areas (B.1)	41,250	—	41,250
Three development areas (B.2)	—	30,000	30,000
Unallocated stores (B.3)	2,460	—	2,460
Training school (B.4*a*)	1,000	—	1,000
Training school, half-year (B.4*b*)	—	500	500
Headquarters' expenditure (B.5)	—	2,500	2,500
Preliminary work (B.6)	—	16,000	16,000
1946 C.D.F. Schemes (B.7)	460	4,580	5,040
Total	67,170	53,580	120,750

100P

	Capital £	Recurrent £	Total £
Second Year:			
Completing development centre (A.1) ...	59,000	—	59,000
Recurrent development centre (A.2) ...	—	34,000	34,000
Three development areas (B.1)	41,250	—	41,250
Six development areas (B.2)	—	60,000	60,000
Training school (B.4*b*)	—	1,000	1,000
Headquarters' expenditure (B.5)	—	2,500	2,500
Preliminary work (B.6)	—	4,000	4,000
Total	100,250	101,500	201,750
Third Year:			
Development centre (A.1) (*xv*)	1,000	—	1,000
Development centre (A.2)	—	34,000	34,000
One development area (B.1)	13,750	—	13,750
Seven development areas (B.2)	—	70,000	70,000
Second training school (B.4*a*)	1,000	—	1,000
One and a half training schools (B.4*b*) ...	—	1,500	1,500
Headquarters' expenditure (B.5)	—	2,500	2,500
Total	15,750	108,000	123,750
Unallocated (B)	—	3,750	3,750
Total for Three Years	183,170	266,830	450,000

Summary of Expenditure, Fourth to Tenth Years.

	£	£	£
Fourth Year:			
Development centres (2)	1,000	34,000	35,000
Development areas (7)	—	74,500	74,500
Fifth Year:			
Development centre	81,000	34,000	115,000
Development areas	—	74,500	74,500
Sixth Year:			
Development centres	2,000	68,000	70,000
Development areas	5,250	74,500	79,750
Seventh Year:			
Development centres	4,000	68,000	72,000
Development areas	5,250	74,500	79,750
Eighth Year:			
Development centres	2,000	68,000	70,000
Development areas	1,750	74,500	76,250
Ninth Year:			
Development centres	2,000	68,000	70,000
Development areas	—	74,500	74,500
Tenth Year:			
Development centres	2,000	68,000	70,000
Development areas	—	74,500	74,500
Development areas unallocated	—	14,250	14,250
Total, Fourth to Tenth Years	106,250	943,750	1,050,000
Total Expenditure, Ten-year Plan	289,420	1,210,580	1,500,000

TABLE 3.

SUMMARY OF FINANCIAL IMPLICATIONS.—HEAD III, AFRICAN RURAL DEVELOPMENT.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Colonial Development and Welfare Fund.												
Capital, First Development Centre	22,000	—	22,000	82,000	—	82,000	9,000	—	9,000	91,000	—	91,000
Other Charges, First Development Centre, two-thirds Grant	—	—	—	—	24,750	24,750	—	86,610	86,610	—	111,360	111,360
Capital, Second Development Centre	—	—	—	—	—	—	85,000	—	85,000	85,000	—	85,000
Other Charges, Second Development Centre, two-thirds	—	—	—	—	—	—	—	61,870	61,870	—	61,870	61,870
Capital, Seven Development Areas	41,250	—	41,250	96,250	—	96,250	12,250	—	12,250	108,500	—	108,500
Other Charges, Seven Development Areas ...	—	6,000	6,000	—	32,000	32,000	—	98,000	98,000	—	130,000	130,000
Unallocated Stores, 50 per cent.	1,230	—	1,230	1,230	—	1,230	—	—	—	1,230	—	1,230
Training Schools	1,000	500	1,500	2,000	3,000	5,000	—	14,000	14,000	2,000	17,000	19,000
Expert Investigations	—	1,000	1,000	—	3,000	3,000	—	7,000	7,000	—	10,000	10,000
Current C.D. and W. Schemes	460	4,580	5,040	460	4,580	5,040	—	—	—	460	4,580	5,040
Total Colonial Development and Welfare Fund	65,940	12,080	78,020	181,940	67,330	249,270	106,250	267,480	373,730	288,190	334,810	623,000
Surplus Funds.												
Personal Emoluments, Development Centre No. 1	—	—	—	—	30,880	30,880	—	108,080	108,080	—	138,960	138,960
Other Charges, Development Centre No. 1, one-third Expenditure	—	—	—	—	12,370	12,370	—	43,310	43,310	—	55,680	55,680
Personal Emoluments, Development Centre No. 2	—	—	—	—	—	—	—	77,200	77,200	—	77,200	77,200
Other Charges, Development Centre No. 2, one-third Expenditure	—	—	—	—	—	—	—	30,930	30,930	—	30,930	30,930
Personal Emoluments and Projects, Development Areas	—	24,000	24,000	—	128,000	128,000	—	392,000	392,000	—	520,000	520,000
Unallocated Stores, 50 per cent.	1,230	—	1,230	1,230	—	1,230	—	—	—	1,230	—	1,230
Headquarters Staff	—	1,500	1,500	—	4,500	4,500	—	10,500	10,500	—	15,000	15,000
Preliminary Development Work	—	16,000	16,000	—	20,000	20,000	—	—	—	—	20,000	20,000
Unallocated Balance	—	—	—	—	3,750	3,750	—	14,250	14,250	—	18,000	18,000
Total Surplus Funds	1,230	41,500	42,730	1,230	199,500	200,730	—	676,270	676,270	1,230	875,770	877,000
TOTAL EXPENDITURE ...	67,170	53,580	120,750	183,170	266,830	450,000	106,250	943,750	1,050,000	289,420	1,210,580	1,500,000

SECTION XI

DEVELOPMENT PLAN HEAD IV.A

ROADS, AIR AND INLAND WATER TRANSPORT—(ALLOCATION £1,150,000)

180. Economic development is difficult in Northern Rhodesia—a vast country with poor soils and a scattered population. But without a good road system such development is practically impossible. In the memorandum submitted to Legislative Council in April, 1946, giving an outline of the loan programme, £750,000 was allocated to roads. No detailed plan was submitted but it was stated that this sum included bitumen-surfacing of the Nkana–Chingola, Nkana–Mufulira roads; Kafue–Broken Hill and approximately 100 miles in the main farming areas of Fort Jameson. The estimate included staff and plant.

181. On further consideration it was decided that this allocation was inadequate; the major portion would be spent in providing a bitumen surface over a limited mileage and the balance available for roads in outlying areas was too small and might act as a brake on the whole development programme if it was not augmented. The allocation was increased to £1,150,000 but now includes any provision which may be required for the development of inland water routes and transport.

182. *Provincial Communications Committees* have submitted provincial plans for road construction and improvement as under:

(i) *Northern Province*:

	Miles
New roads, Class II	90
Existing roads raised to Class II level	1,602
Existing roads raised to Class III level	207
Existing roads raised to Class IV level	758
Total	2,657

The estimated cost of construction is £835,525.
The estimated cost of maintenance is £62,480 per annum.

(ii) *Central Province*:

	Miles
New roads, Class III	141
New roads, Class IV	20
Existing roads raised to Class II	15
Existing roads raised to Class III	442
Existing roads raised to Class IV	714
Total	1,332

Excluding Class I road, Kafue–Ndola.
Estimated cost of construction is £55,400.
Estimated cost of maintenance is £19,445 per annum.

(iii) *Eastern Province*:

	Miles
New roads, Class III	9
New roads, Class IV	783
Existing roads to be Class I	246
Existing roads to be Class II	157
Existing roads to be Class III	238
Existing roads to be Class IV	281
Total	1,714

Estimated cost of construction is £481,910.
Estimated cost of maintenance is £32,490 per annum.

(iv) *Western Province*:

	Miles
Existing roads to be Class I	57
Existing roads to be Class II	161
Existing roads to be Class III	134
Total	352

Estimated cost of construction is £81,850.
Estimated cost of maintenance is £9,750 per annum.

(v) *Kaonde-Lunda Province*:

	Miles
New roads, Class III	144
New roads, Class IV	191
Existing roads to be Class II	708
Existing roads to be Class III	247
Total	1,290

Estimated cost of construction is £395,745.
Estimated cost of maintenance is £33,740 per annum.

(vi) *Barotse Province*:

	Miles
New roads, Class II	183
New roads, Class III	572
New roads, Class IV	373
Existing roads to be Class II	12
Existing roads to be Class III	753
Existing roads to be Class IV	7
Total	1,900

Estimated cost of construction is £227,785.
Estimated cost of maintenance is £36,150 per annum.

(vii) *Southern Province*:

	Miles
Existing roads to be Class I	276
Existing roads to be Class II	269
Existing roads to be Class III	1,089
Total	1,634

Estimated cost of construction is £492,175.
Estimated cost of maintenance is £43,650 per annum.

From these figures a total of 9,700 miles of road require to be constructed or improved at an estimated cost of £3,486,840. If £500,000 is allowed for bridges, the total construction cost is approximately £4,000,000. The maintenance costs (including existing roads not shown above) would be, on completion of construction:

		£
Class I roads	1,083 miles at £50 per annum =	54,150
Class II roads	3,372 miles at £30 per annum =	111,160
Class III roads ...	3,976 miles at £20 per annum =	79,520
Class IV roads ...	3,237 miles at £10 per annum =	32,370
Total ...	11,668 miles	£277,200 per annum.

In addition the Chirundu road, which is omitted from the list, must have a high priority.

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183. *The Central Communications Committee* will decide from time to time the relative priority of the roads listed and the class each road should be in at any given period. These priorities may alter as development work proceeds, so the programme must remain flexible but will be based on present and future recommendations of the provincial committees.

184. For the immediate programme 1947–49 the Director of Public Works has prepared a road programme costing a total of £750,000; this sum includes all items of road expenditure which will appear in the annual estimates of the three years, *i.e.*, it represents a total expenditure irrespective of the source from which it is financed. Taking recurrent expenditure on the 1946 level of £100,000 approximately the Public Works Department road programme covers £300,000 recurrent to be charged to annual revenue and approximately £450,000 construction in three years. The construction expenditure in 1946 Approved Estimates is approximately £72,000, but this will have to be reduced in 1947–49 to about £35,000 per year, or £100,000 in the three-year period. It follows that of the total programme of £750,000 for 1947–49 the allocations will be approximately:

£300,000 recurrent charged against annual revenue;

£100,000 construction charged against annual revenue;

£350,000 construction debited to the £1,150,000 development programme.

This programme will be expanded to the extent it proves possible to get first-class roads (macadamised roads) constructed on contract.

Water Transport.

185. Expert investigation of inland waterways is necessary before any programme of water transport can be prepared. A token figure of £50,000 is given for the first three-year period. If expert advice is obtained soon, and the prospects of developing water transport are favourable, it may be necessary to ask approval of the Legislative Council for a considerable increase in this allocation. Unofficial Members of Legislative Council have always shown the greatest interest in development of water routes and transport. It is anticipated that any authoritative scheme will receive their support and approval.

Summary of Financial Implications.

Development allocation—roads and water transport		£1,150,000
Expenditure debited to this allocation, 1947–49:		
Road construction (loan funds)	£140,000	
Investigations into waterways and river transport (loan funds)	30,000	
Plant...	67,000	
		237,000
Plus token figure for macadam roads on contract (loan funds)		300,000
Total		£537,000

Air Transport.

186. Northern Rhodesia's contribution to the capital required by the Central African Airways Corporation will amount to £140,000 in 1947, and a further sum of £35,000 is required in 1948, making a total of £175,000 in the 1947–49 period. This, with £537,000 required under para. 185, makes the total financial allocation under this Head £712,000 for 1947–49.

A summary of financial implications follows para. 241.

SECTION XII

DEVELOPMENT PLAN HEAD IV.B

AERODROMES—(ALLOCATION £350,000)

Livingstone Aerodrome.

187. This will become one of the principal aerodromes of the Territory. A site has been selected and preliminary works are being undertaken to discover if it is suitable for present and future requirements. £250,000 of the allocation for aerodromes has been earmarked from loan funds for its construction.

Other Aerodromes.

188. It is probable that the Rapide aircraft now used by Central African Airways will be kept in service for some time, but they will gradually be replaced by Dove aircraft which require longer runways. The aerodromes at Lusaka, Ndola and Kasama will be used by the regional service flying between Johannesburg and Nairobi with Viking aircraft. This will mean extending the runways at Ndola and Kasama and may require the construction of a new aerodrome on a different site for Lusaka. Regarding district aerodromes: the Mongu one is too small and cannot be enlarged; it will have to be moved to a new site. Fort Jameson aerodrome may serve for a few more years, but it also will probably have to move if it is to take larger aircraft. Further investigation is necessary but it is probable that eight other aerodromes should be abandoned and built elsewhere. The matter is under investigation by the Director of Public Works, and no concrete scheme can be submitted until further information is available. £100,000 has been provisionally allocated for the construction and enlargement of aerodromes and will be met from loan funds. A decision on priorities will have to be made. A summary of financial implications follows para. 241.

SECTION XIII

DEVELOPMENT PLAN HEAD IV.C

POSTS, TELEGRAPHS, AND TELEPHONES DEVELOPMENT (ALLOCATION £320,000)

189. The need for improved postal facilities is generally admitted, and improved postal communications especially in the rural areas is an urgent necessity. An allocation of £320,000 has been made to cover—

(i) increased and improved postal services;

(ii) improved telephone communication on the line of rail;

(iii) telephone or wireless network covering all Government stations in rural areas.

190. Details of the Posts and Telegraphs Department plans have not been worked out, and the relative merits of land lines and wireless are still being studied. The Legislative Council will be asked to pass the allocation within which the plans must be prepared. These plans will be submitted to the Legislature for approval when they are completed.

It is suggested that of this expenditure—

£50,000 should be debited to loan;

£270,000 should be debited to Northern Rhodesia development funds.

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Summary of Financial Implications.

(1) A development plan for Posts and Telegraphs will be prepared and submitted to Legislative Council for approval before it is put into effect. A token figure is shown in the 1947–49 expenditure which may require revision when further information is available.

(2) Legislative Council is requested to approve :

(*a*) That £320,000 represents the sum within which the plan must be prepared.

(*b*) A £17,000 allocation in 1947 to the Development Authority from loan funds to enable the Postmaster-General to order in advance any necessary equipment.

(3) A token allocation follows, subject to amendment when the plan is prepared.

	Loan	*Surplus Funds*		
	Capital	*Capital*	*Recurrent*	*Total*
	£	£	£	£
1947	17,000	—	—	17,000
1947–49	50,000	26,000	20,000	96,000
1950–56	—	119,000	105,000	224,000
	50,000	145,000	125,000	320,000

SECTION XIV

DEVELOPMENT PLAN HEAD V.A

WATER DEVELOPMENT; WATER SUPPLIES—(ALLOCATION £670,000)

191. The Water Engineer has prepared a plan of water development and this is recorded verbatim below. In it he suggests that a separate Water Department should be created to deal with this programme and Head V.B, " Irrigation," the two plans together representing total expenditure of approximately £1,000,000. This suggestion has been accepted by Government.

192. The water development programme fits naturally into the provincial team—development area conception, and the staff engaged on water development can join the area team when working in each area. The estimates may require adjustment as between the equipment and labour. If the general development of the country makes labour for such work as dam construction more difficult to get, it may be necessary to reduce the labour force and to increase the mechanical equipment accordingly.

193. The plan is based on the best and latest information available but considerable modification may be necessary when skilled staff has done the necessary surveys. This adjustment will not only be in regard to the number of watering points provided but also in the proportion of wells to boreholes to dams. This can only be determined when geological and other factors have been fully studied.

194. It is proposed that the entire sum of £670,000 should be debited to surplus funds.

195. The seriousness of the water supply in Northern Rhodesia has long been recognised. In many native areas, particularly during the latter part of the dry season, both man and beast suffer great hardship and privation because of the inadequacy both as to quantity and quality of the existing water supplies. The natives frequently have to walk in times of water shortage many miles to the nearest—often foul—water-hole where they may have to wait for hours owing either to the crowding or to the meagre water supply.

The cattle, on which the native is so dependent, suffer greatly and are sometimes driven to and from distant overcrowded water-holes, with the well-known results of over-grazing and soil erosion. Furthermore, there are many areas of good land suited for native settlement which are lying idle owing to the lack of available water supplies.

196. The importance of a safe water supply to health and sanitation cannot be overstressed. In view of the close relation that exists between water supplies and a number of diseases that produce endless sickness and frequently death amongst natives, such as intestinal diseases, bilharzia, malaria and hookworm, it may be claimed that it is at least as important to prevent these diseases by the provision of pure water supplies as to extend and maintain medical facilities. The improvement of the water supplies of the country would considerably reduce the number of cases which the hospitals and dispensaries would have to treat.

197. The provision of water supplies is closely related to the problem of tsetse control. While special bush-clearing and other anti-fly measures are necessary as a preliminary to reclamation, such measures are useless unless water in adequate quantity is available.

198. It is recognised as a fact that an adequate clean water supply is essential for the health of humans and stock. Many of the deaths from poverty which occur each year in native-owned herds would be prevented if an adequate and suitably distributed water supply was available in Northern Rhodesia. Also the general condition of the cattle would be greatly improved with a corresponding increase in their value.

199. In any plan for the development of water supplies in the rural areas of Northern Rhodesia the main policy must be one of conservation. From the known rainfall figures the present water duty derived is negligible as the greater proportion of the precipitation is lost to run-off. The percolated water, which should be used for perennial duty as domestic supply for watering of stock and irrigation, is so small that it is not available as the water horizon is at too low a level for economic development. By concentrating on a general plan for water conservation the run-off to waste will be considerably reduced and there will be a corresponding increase in soakage with a consequent rise in the water table.

200. The question of water conservation is closely tied up with that of soil conservation or, as in many areas, the prevention of soil deterioration, and adequate water supplies will be of great importance in securing the optimum distribution of human and animal population. A linked scheme of conservation and development is visualised, and a programme of earth puddle-core dam construction, open well sinking and masonry weir construction will effect such a saving of water that a great improvement in the material position of the African farmer will be achieved. Impounded and so conserved water means that additional agricultural areas will be opened for development and present valuable agricultural lands will be saved from erosion and devastation or even recovered to better production. Ranch and grazing areas can be extended as the trekking of herds to distant waterholes will no longer be necessary. Gardens can be established wherever perennial surface water will exist, making it possible for the farmer to grow essential beneficial vegetable foods. The sinking of concrete-lined wells will provide the villager with a clean potable water free from the usual filth and disease common to the present village drinking-water supplies.

201. For the water conservation and development works envisaged the figures given in this memorandum are based on a target figure of £650,000, which has been taken as a reasonable expenditure over ten years for any really adequate work of water supply development to be undertaken in the whole Territory. The figures of expenditure in each province are based on the information at hand. It will be necessary to carry out extensive reconnaissances before a more accurate estimate can be obtained. It is proposed to treat each province as an entity. The intensity of population in each province, by localities and native areas, will have to be known, with the estimated growth and migration over the period under consideration. Hand-in-hand with these data it will be necessary to tabulate the carried livestock and the agricultural needs; detailed geological and hydrological

surveys will have to be carried out and the best methods of development be determined from the geological desiderata thus obtained. These population and other basic data will be obtained through the Provincial Commissioners in consultation with the relevant departmental officers. The geological and hydrological details will be compiled by field survey parties working in the provinces, their findings being submitted to headquarters for correlation and record. From these findings the best methods of development will be determined. This field survey will be extended over a period, and it is considered that this work will continue throughout the ten-year period visualised, as it is not conceivable that the development of the water resources within the whole country will be in any way completed at the end of that time.

202. Mr. G. F. Clay in his "Memorandum on Post-War Development Planning in Northern Rhodesia" states: "In view of the large field for development of rural water supplies, it is suggested that it might prove desirable to create a separate department to deal with the development of subterranean water supplies." The Water Engineer is of the same opinion and considers that more satisfactory results will be obtained if the development is undertaken by a technical staff trained and experienced in the exploitation of underground water and the conservation of underground and surface waters, and whose whole time will be spent on the problem, rather than adding it on to another department whose duties are manifold. Furthermore, as water is considered a mineral and in view of the close relations between ground water and geology, the development of water resources is always regarded as a form of mining engineering and a job for the specialist rather than the all-rounder. The staff must necessarily combine the required geological, engineering and water-supply qualifications and experience. It is also essential that it should be adequate to allow of close supervision throughout all stages of the work and of carrying out parallel duties of current construction and the investigation of new areas with the view to future construction. Unless these conditions are fulfilled there would be little prospect of carrying out the desired water supply development with efficiency and of securing permanent results. It is therefore considered that the following additional staff would be essential to a successful completion of the scheme as a whole.

Headquarters Staff:

Senior Water Supply Superintendent (£480×20—£600).
Assistant Accountant (£440×20—£600).
3 Clerks (£300—£600).

Field Staff:

3 Assistant Water Engineers (£450 (2 years)—475×25—600×30—£840).
3 Geologists (£450 (2 years)—475×25—600×30—£840).
3 Water Supply Superintendents (£390×15—480).
6 Drillers (£390×15—£480).
18 Well-Sinking Foremen (£300×15—£390).
3 Clerk-Storekeepers (£300—£600).

203. Arguments have been put forward against the formation of a separate technical department for the development of rural water supplies, the chief being the high percentage organisation in the previous Water Development Department as against that of the Public Works Department. The Water Engineer contends that this presents an entirely erroneous picture, as the type of work in each department is entirely different. It is not equable to compare the overhead on a borehole-drilling machine, which costs approximately £150 for a month's drilling and which must be handled by a highly skilled operator whose salary is £40 per month plus bonus, with the overhead on a dwelling-house costing, say, £2,000, a number of which can be supervised by an Inspector of Works, also at a salary of £40 per month. Also, a Well-Sinking Foreman at a salary of, say, £35 per month cannot supervise efficiently more than 20 wells a year, each well costing less than £60. In addition, the importance of adequate and close technical supervision in the field cannot be overstressed.

204. The output of work will increase as the investigation of each area progresses. The present programme of work for 1946 has not been included in this plan. The detailed

geological and hydrological surveys will be put in hand as soon as the required technical staff can be recruited. It is proposed that each field unit will consist of an Assistant Water Engineer, an Assistant Geologist, a Water Supply Inspector, two Drillers, six Well-Sinking Foremen and a Clerk-Storekeeper. The Assistant Water Engineer and Assistant Geologist will undertake the survey and investigation and the Water Supply Inspector will control the work of the Drillers and Foremen, the Assistant Water Engineer being immediately available to render technical assistance when required and generally to supervise the work in hand. The actual siting of all work and the form of development, whether by borehole, well, dam or weir, must be guided by geological considerations, while the constructional work will be under engineering control. Drillers and Foremen will be engaged as required during the normal expansion of the programme.

Expenditure.

205. *Equipment.* The following is a list of the necessary equipment to undertake the scheme :

	£
6 Drilling machines	24,000
6 Sets of drive tube well equipment	300
3,000 Feet of well shuttering	6,000
18 Electric exploders	900
36 Sets camp equipment	1,800
Small tools and equipment (picks, shovels, hoes, scoops, etc.)	10,000
Total	43,000

	£
15 Two-ton lorries at £630 each	9,450
22 Vanettes at £410 each	9,000
Total	18,450

	£
Other Charges :	
Travelling allowances	2,400
Travelling on leave	22,500
Transport, general	12,500
African staff	10,000
Other charges	2,500
Reserve for contingencies	17,000
Total	67,000

Special Development Expenditure.

It will be appreciated that the figures shown on the schedule of special expenditure are divided between labour and equipment. Where men are readily and easily obtained the greater proportion will be dissipated in payment to labour, but in areas yet unsettled and totally undeveloped, the utilisation of mechanical equipment, *e.g.* tractors, scrapers, etc., will become necessary for the construction of the heavier types of work and expenditure shown will include the cost of such equipment.

206. Few boreholes are shown on the above programme as the greater part of the drilling is done on a revenue-producing basis for farmers and planters. Many applications are outstanding for boreholes, and it is reasonable to anticipate a greatly increased demand for borehole water supplies when the drilling programme gets under way with the envisaged number of machines operating. Although this work is charged for, it is considered as essential development and consequently the cost of the drilling rigs has been included in the expenditure.

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207. There is a considerable demand for technical advice and assistance from amongst the European farming community, their chief requirements being advice on water storage schemes, irrigation and suitable sites for boreholes and weirs. Under the present proposals this required technical advice would be available.

Ten-Years' Expenditure:	£
Personal emoluments	170,000
Tools and equipment	43,000
Vehicles	18,500
Total other charges	67,000
Special expenditure	371,520
Total	670,020

208. From the inspection and examination of certain areas, the results obtained to date, and from the experience of rural water supply operations gained over the last 12 years, and under the conditions of technical control and supervision set out in these proposals the methods of well-sinking and water-boring at present carried out, with an extended programme of dam construction, will prove successful in solving the rural water supply problem of Northern Rhodesia. The plan as blocked out calls for total assistance of £670,020, an annual average over ten years of just over £67,000.

A summary of financial implications follows para. 241.

SECTION XV

DEVELOPMENT PLAN HEAD V.B

IRRIGATION—(ALLOCATION £300,000)

209. When it is remembered that Northern Rhodesia has one season only of rains which starts in November and ends in March or April, and that for seven months there is no rain whatsoever, the importance of irrigation at once becomes apparent. A few European farmers grow crops such as wheat under irrigation during the winter months, but for the Territory as a whole, all agricultural work is bound to the months of rain, and when the season is over nothing can be grown until the rains start again. The allocation of £300,000, which will be met wholly from territorial surplus funds, should establish an irrigation staff which will attempt to expand the agricultural year. In the portions of the Territory which are short of water, the irrigation programme will depend in large measure on the success of the programme outlined in Section XIV in providing dams and weirs, but large sections of the Territory such as the Northern Province are exceptionally well watered and (after expert investigation) may prove ideal for large-scale irrigation projects.

210. The first essential is to obtain qualified staff who will examine the possibilities of irrigation and report. It is only after this has been done that any detailed programme of irrigation works will be possible. In order to give a general picture of the work contemplated, the Water Engineer has written a memorandum which is quoted in paras. 211 to 213.

211. The problem of utilising the water of the seasonal flowing and perennial streams and rivers of Northern Rhodesia has, up to the present, never claimed the attention which it deserves. The economic life of the native depends essentially on his agricultural efforts and the need for extensive agricultural development in native areas is now recognised. It is obvious that hope of better crops and greater agricultural yield can only come through irrigation. Irrigation depends primarily on water supply, but there are matters of farming methods, crops, markets, etc., and even the general character of

the people to be considered. Although to a great number of the people irrigation is a novel form of agriculture, the value of water for good crops is very well appreciated. The European farmer is very conscious of the value of water conservation and is rapidly becoming irrigation minded. The Colony is new and water is free without pre-existing rights and in many places it exists only waiting to be used for the benefit of man. Although irrigation is inextricably involved with questions of agriculture and soil conservation, the problem of getting the water to the point where it will be of greatest value is one for the engineer and it is this side only which is considered in this plan.

212. It is considered that the type of irrigation scheme which will be of most immediate value is the simple gravity scheme. Maintenance is practically negligible and the control of the water is elementarily simple. This type embraces irrigation from perennial streams and springs, and combined with water conservation, seasonal waters and dambos, the main works consist of dams, weirs, control gates, main canals and furrows, irrigation tanks, french drains, wash-out channels and the irrigation reticulation, the latter possibly combined with soil conservation works. At the same time, the possibility of pumped irrigation schemes, combined pump and gravity schemes and of large-scale empoundment for irrigation must not be lost sight of.

213. The type, size and extent of works in each province can only be determined by the agricultural needs of the potential water available for useful duty. In the Eastern Province, water development operations are in progress and although extensive irrigation is not visualised in that area much could be done to lay out small schemes in the developed areas to enable the villages to cultivate vegetables and other crops to vary and improve their present diet. The Central and Southern Provinces present parallel problems. Here we have perennial streams running through valuable land which could be, with irrigation, brought to wheat and vegetables. At the moment these streams are virtually running to waste and large areas of land, both native and European owned, are lying dormant which should be highly productive. Perched aquefers also exist which could be made to yield to advantage. The Western Provinces are another problem again. There there is abundant water during the wet season, in many places too much. Combined drainage and irrigation would probably be the solution to better agricultural yield. In the Northern Province there are fast-flowing, high-discharge streams which have been untouched for the benefit of man. By controlling these streams the existing uneconomical and " hand to mouth " system of " chitemene " could be replaced by a much more productive type of agricultural activity. For an irrigation plan to cost £300,000 over ten years it is considered that the following additional staff and plant will be necessary :

Total Estimated Expenditure.

Personal emoluments	£110,000
Plant	14,000
Vehicles	9,700
Housing	20,000
Offices	3,000
Tools and equipment	8,000
Labour and materials	90,000
Other charges	28,000
Reserve for contingencies	17,300
	£300,000

A detailed plan will be submitted in due course.

Summary of Financial Implications.

214. Tables follow para. 241 and show a summary of the financial implications of the irrigation programme.

SECTION XVI

DEVELOPMENT HEAD VI

AGRICULTURAL DEVELOPMENT, MARKETING, SECONDARY INDUSTRIES
(ALLOCATION £500,000)

215. From the development fund, £500,000 has been allocated to cover both the encouragement of secondary industries and the development of agricultural (including livestock) production and marketing. The entire sum will be debited to the Northern Rhodesia surplus balances allocated to the development programme. It has long been realised that secondary industries should as far as possible be developed in Northern Rhodesia to lessen the Territory's dependence on base metal mining. The Advisory Committee on Industrial Development has been engaged in examining the possibilities and has made many valuable suggestions. Some of these may require expert investigation, others may need to be tried out experimentally in the field. As regards agricultural production and marketing, the Joint Development Adviser has made proposals for the establishment of a Northern Rhodesia Development and Marketing Corporation financed by the Government to promote agricultural development and to improve marketing facilities, particularly with reference to the outlying portions of the Territory. These proposals were examined by the Secretary of State's Economic Advisory Committee last year and details are still in the process of being worked out. Finance will be required for this project or for any other developments of agricultural marketing which are finally agreed upon.

216. It is not possible at this stage to present annual estimates of expenditure for each of the coming ten years under this head. Expenditure required for secondary industries can be calculated only as the possibility of establishing each industry is determined. Also, no estimates of the requirements of the Marketing and Development Corporation can be prepared until this organisation has been approved and its duties and functions are known. In many cases expert investigation into the possibility of establishing suggested ndustries must be made, and estimates of expenditure will depend on the advice given.

217. The Legislature is asked to approve the allocation of £500,000 of development funds to be spent over ten years, that is, £50,000 each year. Because no definite plan is possible at this stage, it is suggested that approval of the allocation should be subject to two conditions :

(i) The Legislature authorises the Development Authority to spend up to a maximum of £5,000 each year of the annual allocation of £50,000 for purposes of investigation or experiment only. The Authority will give details of this expenditure in its annual report to be laid on the table of the Legislative Council. All other items of expenditure contemplated will first be submitted to the Legislature for approval with estimates of cost.

(ii) It is understood that the annual allocation of £50,000 is purely a token figure and may vary considerably from year to year.

Summary of Financial Implications.

218. Token figures are attached.

SUMMARY OF FINANCIAL IMPLICATIONS.—HEAD VI, AGRICULTURAL DEVELOPMENT, MARKETING AND SECONDARY INDUSTRIES.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Surplus Funds.												
Investigations and Experiments—Authorised Expenditure	—	5,000	5,000	—	15,000	15,000	—	—	—	—	15,000	15,000
Token Allocation subject to preparation of Approved Plan	35,000	10,000	45,000	100,000	35,000	135,000	230,000	120,000	350,000	330,000	155,000	485,000
Total Surplus Funds	35,000	15,000	50,000	100,000	50,000	150,000	230,000	120,000	350,000	330,000	170,000	500,000

SECTION XVII

DEVELOPMENT PLAN HEAD VII

AFRICAN URBAN HOUSING—(ALLOCATION £1,000,000)

219. In November, 1943, a Commission was appointed to inquire and report upon the administration and finances of native locations in urban areas, and in particular upon (*a*) the cost of housing, (*b*) the cost of essential services, and (*c*) the cost of general administration and management. The Commission reported in September, 1944. This was followed in September, 1945, by a report submitted by Mr. F. Walton Jameson of the National Housing and Planning Commission of the Union of South Africa. It is on these two reports that the African urban housing policy is largely based.

220. Both reports recommended the establishment of a separate African Housing Department, and this has been done. The Commissioner of Local Government and African Housing has written a memorandum giving his plan of housing based on the £1,000,000 allocation. This is to be charged wholly to loan funds, and it will be noted that, unlike all other sections of the territorial development plan, this section covers a period of five years only, and will be completed by the end of 1951 if staff and materials can be obtained. The memorandum follows (paras. 221–234).

221. The problem of housing the ever-increasing army of Africans employed in townships and industrial areas faces all African Governments; with the complementary problem of checking the flow to urban areas of Africans greatly in excess of the number who can possibly find employment. In South Africa, and until recently in Southern Rhodesia, the position was complicated by the fact that the employer was under no obligation to provide accommodation for his employees, or to pay them a wage high enough to enable them to hire adequate accommodation themselves, with the result that there rapidly developed the most appalling slums, situated only too often upon private property, the owners of which charged exorbitant rents for utterly inadequate accommodation. This naturally led to deplorable overcrowding and insanitary and unhealthy conditions which have, in no small measure, contributed to the alarming increase in pulmonary and other diseases.

222. The method adopted in South Africa to improve conditions has been heavy Government subsidisation of "sub-economic" housing, in other words the taxpayer has been called upon to subsidise the employer and enable him to employ what amounts to sweated labour. In this Territory we propose to place the onus of providing decent accommodation directly upon the employer and to protect the married employee and reduce his rent by loading the single man. This has been already done in Southern Rhodesia by legislation prohibiting any differentiation in rent between single and married employees and placing directly upon the employer the onus of paying the rent. At the same time, provision has been made whereby, when an employee receives a cash wage in excess of a

certain figure, to be fixed from time to time, he contributes half such excess towards his rent until he reaches the point of paying the whole, upon which his employer is relieved of the obligation to house him. It is also proposed to cease the present system of subsidising rents, whereby the Government pays half the annual loss on a location, a system which has the effect of discouraging the local authorities from improving conditions in the locations under their control. Any system of rent subsidisation is, in fact, a subsidisation of low wages and is pernicious. There can be no justification for calling upon the taxpayer to subsidise the employer in this way.

223. On the other hand, the immediate cessation of any subsidy might result in an undesirably sudden and sharp increase in rents. It is proposed that this might be countered, and the levelling of rents encouraged, by the Government stating that as from a certain date the subsidy paid by Government would amount to the difference between the location costs and receipts calculated on a flat rent of, say, 9*s*. per month, a figure already adopted by one local authority and fully economic. The datum figure would be progressively increased until a full economic rent is reached.

224. It has been suggested that economic rents cannot be imposed until a minimum cash wage has been introduced. The desirability of improving wages is generally accepted and gross wages include housing and food. It appears desirable first to improve living conditions, and thus potential output, and leave cash increments until output actually improves. In any case, present rent charges are much below what they should be if League of Nations figures are accepted, *i.e.*, that the proportion of gross wage spent on rent amounts to 20 per cent. The lowest cash wage paid to adult Africans on the line of rail amounts to about 15*s*., and adequate food certainly costs not less than a similar amount. The amount devoted to rents should therefore be not less than 7*s*. 6*d*. per month. The extra 1*s*. 6*d*. proposed represents the first step up in gross wages. The raising of gross wages will probably have the desirable effect of reducing the number of able-bodied men employed in domestic service.

225. The very unsatisfactory state of urban African housing in Northern Rhodesia was brought to notice in the report of the African Housing Commission. The Commission recommended the formation of a separate African Housing Department to undertake immediately a large building programme to provide adequate accommodation, mainly married quarters, to meet present requirements. In the interests of health and economy they advised that the buildings should be constructed of permanent materials, a view which has since received the strong support of the Standing Committee on African Housing appointed by the Central African Council. The Commission also recommended that, as the permanent programme would necessarily take some years to complete, and large numbers of Africans in urban areas are living under most unsatisfactory conditions in the local authorities' "grass compounds," or under still more unsatisfactory conditions in the private locations or unauthorised settlements in the vicinity of townships, a number of purely temporary huts for their accommodation should be erected forthwith in local authority areas and under their control.

226. These recommendations have been accepted. Mr. Eccles was appointed Commissioner of Local Government and African Housing on the 1st June, 1946, and Mr. Dibble was transferred from the Public Works Department on the 1st August as Chief Engineer to the new department. Efforts to build up the requisite staff are complicated by the extreme shortage of experienced operatives.

227. The lateness of the season and lack of staff rendered it impossible to undertake the full programme of temporary building and out of an approximate estimated requirement of 4,300 houses for the accommodation of people now unhoused only 2,925 will be completed by the end of 1946. The remainder will have to build in 1947. Details are given below.

Temporary Housing.

Township	*Estimated requirements*	*To be completed in 1946*	*Cost*	*Balance to be built in 1947*	*Cost*	*Total Cost*
			£		£	£
Broken Hill ...	500	100	1,000	400	4,000	5,000
Mufulira ...	100	50	500	50	500	1,000
Luanshya ...	500	100	1,000	400	4,000	5,000
Kitwe	1,000	1,000	10,000	—	—	10,000
Ndola	700	700	7,000	—	—	7,000
Lusaka	1,000	500	5,000	500	5,000	10,000
Monze	20	20	200	—	—	200
Mazabuka ...	25	25	250	—	—	250
Choma	10	10	100	—	—	100
Livingstone ...	400	400	4,000	—	—	4,000
Kafue	40	40	400	—	—	400
	4,295	2,945	29,450	1,350	13,500	42,950

The cost of the temporary houses has been limited to £10 per house, including the provision of essential services. Permission has been given to exceed this amount by the salvage value at the end of their life of any permanent materials used in the construction of the houses or the services.

228. The inauguration and completion of the permanent programme is dependent upon the availability of staff and materials, particularly cement, as it appears certain that the most satisfactory and economical building medium at most centres will prove to be concrete. It is proposed to keep the all-in cost within £150 per house including services, and though the first houses to be built may even exceed this amount it is confidently expected that as time goes on the cost per house will be materially reduced.

229. The type of house proposed contains two rooms, one 12 feet by 10 feet and the other 10 feet by 10 feet, a combined lock-up kitchen and stove, a small verandah, and an ablution shelter, with no roof, attached. Where practical each house will have a pit latrine, and water will be provided by a borehole or a capped and lined well to every 50 houses, the minimum distance between any pit latrine and a well or borehole to be not less than 150 feet, or nearly four times the minimum laid down in English sanitary law and practice. The ideal aimed at is, of course, a piped water supply and individual water closets, but the cost would be very great and the rents correspondingly high. It is considered that individual pit latrines would be preferable to any communal system. There would be no objection to local authorities providing a piped water supply should they desire to do so, but the extra cost in rents would in places exceed 4*s*. per month. The houses are to be built on plots not less than one-tenth of an acre in extent and are to be capable of expansion. No larger houses will be built until the present congestion has been relieved.

230. A certain amount of accommodation will be provided in locations for Africans working on their own account and able to pay the full rent. Others should be accommodated in African towns. It is proposed further that local authorities should be called upon to provide a limited amount of accommodation, married and single quarters, for Africans seeking employment in the area.

231. It is proposed that local authorities should control all locations within their areas and accommodation for Africans erected on private property. This will not preclude the establishment by employers of industrial locations controlled by their own staff under the direction of the local authority's location superintendent, or the establishment of locations for district messengers and tribal authorities under the direct control of Government.

232. The improvement of conditions in local authority areas would be largely nullified if it continued to be possible for Africans to squat indiscriminately upon Crown land immediately outside the local authority areas, and it is proposed to introduce legislation permitting local authorities to exercise outside their areas, with the approval of the Governor, such control as is necessary in the interests of health and good government. No further permits will be issued for the establishment of private locations.

233. The permanent building programme at present envisaged is :

			£
1947	320 houses	...	48,000
1948	880 ,,	...	132,000
1949	1,500 ,,	...	225,000
1950	2,000 ,,	...	300,000
1951	2,000 ,,	...	300,000
	6,700 ,,		£1,005,000

with a likelihood of the cost in the last two years being reduced. The 320 houses to be built in 1947 will be experimental and widely dispersed.

234. It is proposed as far as possible to encourage local authorities to undertake their own building programmes under departmental supervision. Other buildings will be let out to contract. At the same time the department will form and train two building organisations, each capable of building 200 houses a year. These organisations will help to keep contract prices down, will undertake the building at small centres, and will form a useful training medium for African building artisans. Materials will be purchased departmentally in bulk for distribution as required.

235. A summary of financial implications follows.

SUMMARY OF FINANCIAL IMPLICATIONS.

(Five-Year Programme.)

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-51			Total Expenditure, 5 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
Head VII, African Urban Housing.	£	£	£	£	£	£	£	£	£	£	£	£
Loan.												
Erection of 6,700 Houses at £150, inclusive ...	48,000	—	48,000	405,000	—	405,000	595,000	—	595,000	1,000,000	—	1,000,000

SECTION XVIII

DEVELOPMENT PLAN HEAD VIII

GENERAL BUILDING PROGRAMME AND PUBLIC WORKS ORGANISATION
(ALLOCATION £1,300,000)

236. The allocation of £1,300,000 will be debited wholly to loan funds. In the schedule considered by members of Legislative Council in April when debating the proposed £4 million loan, the expenditure contemplated under this head was £1,038,000, so the present plan provides for additional expenditure of £262,000.

237. Details of the £1,038,000 expenditure are :

	£
Transfer to Lusaka of High Court	87,300
Transfer to Lusaka of Northern Rhodesia Police	85,000
Transfer to Lusaka of Lands and Surveys	33,750
Transfer to Lusaka of European Education	15,550
Transfer to Lusaka of Posts and Telegraphs	17,600
Transfer to Lusaka—unallocated	5,000
Schools—European Education Department	150,000
Prisons—Prison Department	123,000
Staff Housing—Health	15,000
Staff Housing—Northern Rhodesia Police	4,000
Staff Housing—Posts and Telegraphs	1,500
Staff Housing—Prisons	18,500
Staff Housing—Public Works Department	40,000
Staff Housing—Provincial Administration	71,800
Legislative Council Building	15,000
Lusaka Government Rest-house	25,000
Aged Persons' Home	10,000
Workshops—Public Works Department	25,000
Total buildings	743,000
To which should be added :	
Public Works Department equipment	40,000
Public Works Department staff	255,000
Total under general programme ...	£1,038,000

238. Of the balance of £262,000, which brings the total under this head to £1,300,000, at least £82,000 should be added to the Provincial Administration allocation. Three new stations are being opened (Guimbe, Solwezi and Feira) and in addition the rural development organisation will ask that a new district should be established between Balovale and Mwinilunga. Many houses on out-stations require extensive repair and even more are not worth repairing and should be rebuilt. £80,000 is allocated to Lusaka Water and Light, and £100,000 for other necessary buildings, making the total under this head £1,300,000.

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239. In addition to items appearing under this head, the loan programme provided for a number of buildings which are under departmental allocations in Heads I and II of the development plan. These are :

	£
Transfer to Lusaka of African Education headquarters ...	19,000
Transfer to Lusaka of Agriculture	22,000
Transfer to Lusaka of Veterinary	14,800
Hospitals—Health Department	383,000
Entomological Laboratory	15,000
Schools—African Education	37,000
Staff Housing—African Education	30,000
Staff Housing—Agriculture	8,000
Staff Housing—Veterinary	3,200
Total under departmental allocations	£532,000

240. From the paragraphs above it will be seen that the total loan building programme is :

Allocation under Development Head VIII	£1,300,000
Allocation under Heads I and II	532,000
Total loan buildings	£1,832,000

In addition to the loan programme, a number of buildings will be erected, the cost of which will be debited to Colonial Development and Welfare Grants or to surplus balances. These are listed below and, taken with the lists given in paras. 237 and 239, give the total building programme of the development plan irrespective of the source from which it is financed. The figures are approximate only.

	£
Health	243,000
African Education	450,000
Agriculture	110,000
Forestry	57,000
Veterinary	40,000
Game and Tsetse	77,000
Rural Development	217,000
Irrigation	23,000
Total	£1,217,000

Taking loan buildings (£1,832,000) and development fund buildings (£1,217,000) together, the total building programme for the territorial plan exceeds £3,000,000.

SECTION XIX

LOANS TO LOCAL AUTHORITIES—(ALLOCATION £250,000)

241. A sum of £250,000 will be set aside from loan funds to be available as loans to local authorities.

SUMMARY OF FINANCIAL IMPLICATIONS.

	Expenditure, 1947			Expenditure, 1947-49			Expenditure, 1950-56			Total Expenditure, 10 years		
	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total	Capital	Recur.	Total
	£	£	£	£	£	£	£	£	£	£	£	£
Head IV.A, Roads, Air, Water Transport.												
Loan Funds.												
Roads, Air, Water Transport	256,000	—	256,000	712,000	—	712,000	438,000	—	438,000	1,150,000	—	1,150,000
Head IV.B, Aerodromes.												
Loan Funds.												
Aerodrome Construction	55,000	—	55,000	200,000	—	200,000	150,000	—	150,000	350,000	—	350,000
Head VIII, General Building Programme, P.W.D. Organisation.												
Loan Funds.												
General Building—Organisation	246,000	—	246,000	600,000	—	600,000	700,000	—	700,000	1,300,000	—	1,300,000
Head V.A, Water Supplies.												
Surplus Funds.												
Water Development Programme	82,000	—	82,000	240,000	10,000	250,000	370,000	50,000	420,000	610,000	60,000	670,000
Head V.B, Irrigation.												
Surplus Funds.												
General Irrigation	6,000	—	6,000	35,000	5,000	40,000	210,000	50,000	260,000	245,000	55,000	300,000

242. Section XIX completes the expenditure of the £13 million territorial plan. A summary of expenditure for the plan as a whole will be found at the end of this memorandum.

SECTION XX

BROADCASTING FOR AFRICANS AND FILM UNIT

243. At a preliminary meeting of the Central African Council in April, 1945, it was decided to set up a Public Relations Committee of the Council, consisting of the Information Officer and an unofficial from each territory, to consider methods of closer co-operation in the services of information and public relations. This Committee met on the 16th of August, 1945, and recommended that Northern Rhodesia should undertake broadcasting for Africans for the three territories. The Central African Council accepted in principle the Committee's recommendations.

244. The Committee met again on the 17th of January, 1946, and invited Mr. Varley, B.B.C. engineer sent out as an expert adviser on broadcasting in East and Central Africa, to attend the meeting. Detailed proposals for the scheme of broadcasting for Africans were prepared and submitted to Executive Council which approved, subject to the funds for Northern Rhodesia's share in the scheme being obtained from the £1 million regional allocation under the Colonial Development and Welfare Act. This meant that Nyasaland's share in the scheme would have to come from the same source and to this the Government of Nyasaland agreed. The Government of Southern Rhodesia will bear the additional cost of the European broadcasting service for the three territories. The figures of expenditure which follow thus represent expenditure from the Colonial Development Fund regional allocation, in which both Northern Rhodesia and Nyasaland share, for an African broadcasting service designed to serve the two territories mentioned and Southern Rhodesia.

245. The broadcast will not, of course, be the sole Information Department medium of reaching the African public. It will be used in conjunction with the native Press, the illustrated lecture, posters, cinema, photographs, etc., in the "internal" work of the Information Department, which is: (*a*) to assist in interpreting the policy of Government to the Africans, (*b*) to give them information on events outside the Territory, (*c*) to assist in mass education, mass literacy and general development campaigns, (*d*) to provide entertainment for both town and village Africans.

246. To ensure that Southern Rhodesia and Nyasaland have a fair share in the control of broadcasting for Africans a Broadcasting Advisory Committee should be set up to which would be submitted well in advance in broad outline the material to be broadcast. This committee would also consider any divergencies of view upon alterations desired.

247. A 20-kw. transmitter is required at Lusaka, operating with an omnidirectional non-skip antenna system. The existing transmitters would then be converted to give a primary medium-wave service over a small circle of two to three miles radius in the four mine townships of the Copperbelt, which are the thickest centres of population in the three territories. They would be linked to Lusaka by broadcast carrier line.

248. Improved studio and recording equipment will be required and it is the desire of the Nyasaland Government that a recording van should be part of the broadcasting equipment so that the voices of Nyasaland personalities shall be heard in Nyasaland, and also the songs and music of the people. A small studio is required at Zomba for use with the recording unit of the van when the latter is not on tour.

249. The intention is that there should be receivers at all the main and industrial and town compounds, welfare halls, bomas (for district travelling), in the mobile cinema vans, at missions and schools and the larger Native Authority centres. These receivers should not be provided free, but paid for by the industry, municipality, Government department, mission or Native Treasury concerned. Individual possession of receiving sets by Africans will grow slowly; but it will grow.

250. Estimates of expenditure are :

Annual Recurrent :

	£
Personal emoluments—European staff	8,880
Personal emoluments—African staff	776
Other recurrent expenditure	3,040
Total recurrent	12,696
Capital Expenditure	50,000

Revenue. There are three sources of revenue from broadcasting which should, it is hoped, eventually cover a large proportion of expenditure. These are :

(*a*) Wireless licences—estimated revenue £4,000

(*b*) Royalties from commercial gramophone records made from studio recordings £350

(*c*) Advertising £3,000

Advertising will have to be carefully controlled.

251. Application has been made to the Colonial Development and Welfare Fund for assistance in establishing this inter-territorial broadcasting service. The free grant asked for is from the Central African regional allocation of £1 million, and is for £50,000 capital expenditure and £126,960 recurrent expenditure for ten years, but this recurrent expenditure will be progressively offset by revenue from the three sources mentioned in the paragraph above.

CENTRAL AFRICAN FILM UNIT

252. (1) *Description of Scheme*. Following a decision of the Central African Council it is proposed to form a Central African Film Unit :

(*a*) For the production of suitable films for Africans, both for entertainment and instruction, and both short and feature films.

(*b*) For local European exhibition, interest and educational shorts, showing the Europeans as much as possible about the territories in which they live, and, for example, showing farmers the results of some latest agricultural or veterinary research at one of the research stations in Central Africa.

(*c*) For limited use outside our borders for general publicity purposes, including tourist publicity.

The Southern Rhodesia Information Department put forward estimates for an expensive 35 mm. unit. The Public Relations Committee of the Central African Council which discussed these estimates recommended that the Northern Rhodesia Information Department should prepare estimates for a less expensive 16 mm. unit, considering that the 16 mm. medium was more appropriate for the purposes for which the films were required. This proposal was approved by the Central African Council and the estimates have been prepared. They have, however, yet to be approved by the Public Relations Committee meeting on 31st October and then by the Council meeting in November, and the allocation of expense to each Government will have to be worked out.

No details can therefore yet be given, and the final scheme cannot be submitted by 31st October. It should, however, be ready before the end of the year, and the unit should be formed as early as possible next year. Token figures are therefore submitted.

As in the case of the broadcasting scheme, it is proposed that Northern Rhodesia's and Nyasaland's share in the cost of the unit shall be borne from the £1,000,000 Colonial Development and Welfare allocation for regional services in Central Africa.

(2) *Total cost of scheme*—£122,000.

(3) *Period of scheme*—1947 to 1957.

(4) *Total expenditure from 1st January, 1947, to 31st December, 1949*—£38,000.

(5) *Expenditure in 1947*—£15,000.

SECTION XXI

RHODES-LIVINGSTONE INSTITUTE

253. The financing of the Rhodes-Livingstone Institute is not included in the £13 million development plan, as this sum is made up of the Colonial Development and Welfare Fund territorial allocation and Northern Rhodesia funds. The Director of the Institute has prepared a plan of expanded research, and the staff of field investigators has been greatly increased. The Colonial Development and Welfare Fund has a central allocation for research, and an application for financial assistance from this source might be favourably considered.

SECTION XXII

SUMMARY

Thirteen Million Pounds Development Fund.

254. The ten-year development plan for Northern Rhodesia provides for services above the 1946 level costing £13,000,000 over a ten-year period. This amount is obtained from three sources :

Colonial Development and Welfare allocation	£2,500,000
Loan	£5,000,000
Surplus funds approved in Legislative Council	£3,000,000
Surplus balances, 1945 to 1949	£2,500,000

Financing the First Three Years.

255. The plan covers a ten-year period, but the Legislature will be asked to vote funds for the first three years only. In 1949 the whole plan will be revised in the light of the financial position at that time and funds will then be voted for a further three years.

Allocation as between the three Sources of Revenue.

256. Heads I to III of the plan (social services, economic services, rural development) will be financed :

From loan	£900,000
From Colonial Development and Welfare Fund	£2,500,000
From surplus funds	£3,600,000
Total	£7,000,000

Heads IV to VIII of the plan require :

From loan	£4,100,000
From surplus funds	£1,900,000
Total	£6,000,000

Plan Heads Prepared in Full.

257. Full plans have been prepared for the following development plan heads (*see* para. 17). The Legislature will be asked to approve these plans and to allocate the funds required for the first three years to allow the programme to proceed :

Head	I.A	Health
	I.B	African Education and Publications Bureau.
	II.A	Agriculture
	II.B	Forestry
	II.C	Veterinary
	II.D	Game and Tsetse
	III.	Rural Development
	IV.A	Road, Air and Water Transport
	IV.B	Aerodromes
	V.A	Water Supplies
	VII.	African Urban Housing
	VIII.	General Building Programme—Public Works Department
	IX.	Loans to Local Authorities.

Note.—Head IV.A as regards water transport should appear in para. 258.

Plan Heads not yet Worked out in Detail.

258. Detailed plans have not yet been prepared for the following development plan heads. The Legislature is to be asked to approve the amount of the total allocation, and the provisional estimate of funds required for the first three years, on the understanding that the plans will be prepared within the limit of each allocation and will be submitted to the Council for approval before being put into effect :

Head I.C	European Education
Head IV.C	Posts, Telegraphs and Telephones
V.B	Irrigation
VI.	Agricultural Development, Marketing and Secondary Industries.

It is suggested, however, that under Head VI the Development Authority should be allowed to spend up to £5,000 per year in expert investigation or experiment without prior reference to the Legislative Council.

Other Departmental Projects.

259. The Information Officer requires funds for a broadcasting service to Africans and a Central African film unit, to be financed from the Central African allocation of £1,000,000 from the Colonial Development and Welfare Fund for joint Northern Rhodesia–Nyasaland services. The Rhodes-Livingstone Institute has an extensive programme of research which may receive a contribution from the Colonial Development and Welfare central allocation for research. Both these schemes are outside the territorial development plan and expenditure on them does not appear in the financial tables.

Unallocated Balance.

260. The unallocated balance of £168,000 has been divided arbitrarily between the first three-year section and the rest of the plan to give a round figure for the totals.

Tables Attached.

261. The following tables are attached :

A. General allocation as between Loan, Colonial Development and Welfare Fund and Northern Rhodesia Surplus Funds.

B. Method of financing the £13,000,000 development programme.

C. Apportionment of the £13,000,000 between capital and recurrent expenditure.

D. Expenditure for the first three years (1947–49) and apportionment thereof between capital and recurrent.

10DP

TABLE A.

TEN-YEAR DEVELOPMENT PLAN.

GENERAL ALLOCATION AS BETWEEN LOAN, COLONIAL DEVELOPMENT AND WELFARE FUND AND NORTHERN RHODESIA SURPLUS FUNDS.

	Loan			Colonial Development and Welfare Fund		
	Allocated	Un-allocated	Total	Allocated	Unallocated	Total
	£	£	£	£	£	£
Heads I-III	892,000	8,000	900,000	2,500,000	—	2,500,000
Heads IV-IX ...	4,100,000	—	4,100,000	—	—	—
TOTALS	4,992,000	8,000	5,000,000	2,500.000	—	2,500,000

	Surplus Funds			Total All Sources		
	Allocated	Un-allocated	Total	Allocated	Unallocated	Total
	£	£	£	£	£	£
Heads I-III	3,600,000	—	3,600,000	6,992,000	8,000	7,000,000
Heads IV-IX ...	1,740,000	160,000	1,900,000	5,840,000	160,000	6,000,000
TOTALS	5,340,000	160,000	5,500,000	12,832,000	168,000	13,000,000

N.B.—The unallocated balances of £8,000 under Loan and £160,000 under Surplus Balances (total £168,000) are for the plan as a whole and are not earmarked for any one of the two sections of the plan as is indicated above.

TABLE B.

METHOD OF FINANCING THE £13,000,000 DEVELOPMENT PROGRAMME.

Head		Total Expenditure	From Loan Funds			From Colonial Development and Welfare Fund and Surplus Funds		
			Total	To end 1949	To end 1947	Total	To end 1949	To end 1947
		£	£	£	£	£	£	£
I.A	Health	1,598,000	398,000	127,500	2,000	1,200,000	131,028	22,836
I.B	African Education	1,486,000	86,000	86,000	—	1,400,000	288,327	76,509
	Publications Bureau	50,000	—	—	—	50,000	15,250	5,160
I.C	European Education	250,000	250,000	—	—	—	—	—
II.A	Agriculture	776,000	140,000	56,000	2,000	636,000	80,000	2,500
II.B	Forestry	314,000	—	—	—	314,000	84,400	9,168
II.C	Veterinary	518,000	18,000	18,000	—	500,000	125,400	36,924
II.D	Game, Tsetse, Fish	500,000	—	—	—	500,000	176,000	64,620
III.	African Rural Development	1,500,000	—	—	—	1,500,000	450,000	120,750
IV.A	Roads, Air, Water Transport	1,150,000	1,150,000	712,000	256,000	—	—	—
IV.B	Aerodromes	350,000	350,000	200,000	55,000	—	—	—
IV.C	Posts, Telegraphs, etc.	320,000	50,000	50,000	17,000	270,000	46,000	—
V.A	Water Supplies	670,000	—	—	—	670,000	250,000	82,000
V.B	Irrigation	300,000	—	—	—	300,000	40,000	6,000
VI.	Agricultural Development, Marketing and Secondary Industries	500,000	—	—	—	500,000	150,000	50,000
VII.	African Urban Housing	1,000,000	1,000,000	405,000	48,000	—	—	—
VIII.	General Building—Public Works Department Organisation	1,300,000	1,300,000	600,000	246,000	—	—	—
IX.	Loans to Local Authorities	250,000	250,000	250,000	185,000	—	—	—
	Unallocated Balances	168,000	8,000	8,000	—	160,000	160,000	—
	Totals	13,000,000	5,000,000	2,512,500	811,000	8,000,000	1,996,405	476,467

TABLE C.

APPORTIONMENT OF £13,000,000 BETWEEN CAPITAL AND RECURRENT EXPENDITURE.

Head	Total Expenditure	Capital Expenditure		Recurrent Expenditure	Notes
		Loan	C.D.W. and Surplus Funds	C.D.W. and Surplus Funds	
	£	£	£	£	
I.A Health	1,598,000	398,000	279,592	920,408	
I.B African Education	1,486,000	86,000	480,720	919,280	
Publications Bureau	50,000	—	—	50,000	
I.C European Education	250,000	250,000	—	—	
II.A Agriculture	776,000	140,000	141,000	495,000	Token figure pending detailed plan.
II.B Forestry	314,000	—	77,000	237,000	
II.C Veterinary	518,000	18,000	90,000	410,000	
II.D Game, Tsetse, Fish	500,000	—	70,000	430,000	
III. African Rural Development	1,500,000	—	289,420	1,210,580	
IV.A Roads, Air, Water Transport	1,150,000	1,150,000	—	—	
IV.B Aerodromes	350,000	350,000	—	—	
IV.C Posts, Telegraphs, etc.	320,000	50,000	145,000	125,000	Token figure pending detailed plan.
V.A Water Supplies	670,000	—	610,000	60,000	
V.B Irrigation	300,000	—	245,000	55,000	Token figure pending detailed plan.
VI. Agricultural Development, Marketing and Secondary Industries	500,000	—	330,000	170,000	Token figures (*see* para. 217).
VII. African Urban Housing	1,000,000	1,000,000	—	—	
VIII. General Building—Public Works Department Organisation	1,300,000	1,300,000	—	—	
IX. Loans to Local Authorities	250,000	250,000	—	—	
Unallocated Balance	168,000	8,000	—	160,000	
Totals	13,000,000	5,000,000	2,757,732	5,242,268	

TABLE D.

EXPENDITURE FOR YEARS 1947 TO 1949 AND APPORTIONMENT THEREOF BETWEEN CAPITAL AND RECURRENT.

Head	Total Expenditure	Total for 3 years	Capital		Recurrent	Notes
			Loan	C.D.W.F. and Surplus Funds	C.D.W.F. and Surplus Funds	
	£	£	£	£	£	
I.A Health	1,598,000	258,528	127,500	111,392	19,636	
I.B African Education	1,486,000	374,327	86,000	192,412	95,915	
Publications Bureau	50,000	15,250	—	—	15,250	
I.C European Education	250,000	—	—	—	—	Token figures pending detailed plan.
II.A Agriculture	776,000	136,000	56,000	41,000	39,000	
II.B Forestry	314,000	84,400	—	47,350	37,050	
II.C Veterinary	518,000	143,400	18,000	47,000	78,400	
II.D Tsetse, Game, Fish	500,000	176,000	—	40,000	136,000	*Including C.D.W. 1946 expenditure, £14,400.
III. African Rural Development	1,500,000	450,000	—	183,170	266,830	
IV.A Roads, Air, Water Transport	1,150,000	712,000	712,000	—	—	
IV.B Aerodromes	350,000	200,000	200,000	—	—	
IV.C Posts, Telegraphs, etc.	320,000	96,000	50,000	26,000	20,000	Token figures pending detailed plan.
V.A Water Supplies	670,000	250,000	—	240,000	10,000	
V.B Irrigation	300,000	40,000	—	35,000	5,000	Token figures pending detailed plan.
VI. Agricultural Development, Marketing and Secondary Industries	500,000	150,000	—	100,000	50,000	Token figure (*see* para. 217).
VII. African Urban Housing	1,000,000	405,000	405,000	—	—	
VIII. General Building—Public Works Department Organisation	1,300,000	600,000	600,000	—	—	
IX. Loans to Local Authorities	250,000	250,000	250,000	—	—	
Unallocated Balance	168,000	168,000	8,000	—	160,000	
Totals	13,000,000	4,508,905	2,512,500	1,063,324	933,081	